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CURRICULUM VITAE OF TREVOR J. DARRELL

May 20, 2013

I. Education:

School	Degree	Date
University of Pennsylvania.	B.S.E	1988
MIT	MS	1991
MIT	Ph.D.	1996

II. Experience:

Employer	Position	Beginning	Ending
Univ. of Pennsylvania	Sys. Prog./Administrator	1985	1988
Cold Spring Harbor Lab	Teaching Assistant	1994	1994
Stanford University	Visiting Researcher	1994	1994
Stanford University	Visiting Instructor	1997	1997
Interval Research Corp.	Research Staff	1996	1999
MIT	Assistant Professor	1999	2003
MIT	Associate Professor	2003	2008
ICSI	Group Leader	2008	present
UC Berkeley CS	Associate Adjunct Professor	2008	2011
UC Berkeley CS	Professor in Residence	2011	present

III. Professional Service:

Activity	Beginning	Ending
Conference on Computer Vision and Pattern Recognition (CVPR)		
Program Committee	1999, 2000, 2004, 2005	
Area Chair	2001, 2008	
Program Chair	2010	
Conference on Face and Gesture Recognition		
Program Committee	2000	2000
International Conference on Computer Vision (ICCV)		
Program Committee	2000	2000
Area Chair	2005	2005
International Conference on Multimodal Interfaces (ICMI)		
Program Committee	2000, 2002	
Advisory board member, 2003-present	2003	present
Program Chair	2003	2003
General Chair	2004	2004
Area Chair	2005, 2006	
Conference on Perceptual User Interfaces (PUI)		
Program Chair	2001	2001

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Conference on Ubiquitous Computing (UBICOMP) Program Committee	2002	2002
NSF Panels (SBIR, HCI, ITR, CAREER, AI)	2002	2008
DARPA Information Science and Technology Advisory Study Group (ISAT): Member	2003	2007
Member, Second Appointment	2011	present
Future Command Study	2003	2004
Embedded Humans Study	2004	2005
Trusted Deployable Adaptive Systems Study	2005	2006
Data Taming Study	2005	2006
Co-Chair, Adaptive and Interactive Representations Quick Reaction Study	2006	2006
Chair, Exploitation of Persistent Operational Surveillance (EXPOSE) Study	2007	2007
Chair, TACT Study	2012	2013
Neural Information Processing Systems (NIPS) Conference: Senior Program Committee	2004	2004
Editor, *CACM Special Issue on Perceptive Multimodal Interfaces*	2004	2004
AAAI conference; Program Committee, 2004	2004	2004
Associate Editor, *Artificial Intelligence Journal*	2004	present
Associate Editor, *IEEE Trans. Pattern Analysis and Machine Intelligence*	2005	present
DARPA Computer Sciences Futures Study (Junior Faculty), Member	2006	2006

IV. Publications

Books:

1. Shakhnarovich, G., T. Darrell, and P. Indyk, eds., *Nearest-Neighbor Methods in Learning and Vision*, MIT Press, 2006

Papers in Refereed Journals:

1. Darrell, T. and K. Wohn, "Depth from Focus using a Pyramid Architecture," *Pattern Recognition Letters, 11(12)*, pp. 787-796, 1990.

2. Pentland, A., S. Sherock, T. Darrell, and B. Girod, "Simple Range Cameras Based on Focal Error," *J. Optical Soc. of Am. A, 11(11)*, pp. 2925-2934, 1994.

3. Darrell, T. and A. Pentland, "Cooperative Robust Estimation using Layers of Support," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, *17(5)*, pp. 474-487, 1995.

4. Johnson, M., T. Darrell, and P. Maes, "Evolving Visual Routines," *Artificial Life Journal, 1(4)*, pp. 373-389, 1995.

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5. Darrell, T., I. Essa, and A. Pentland, "Task Specific Gesture Analysis using Interpolated Views," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, pp. 1236-1242, December 1996.

6. Maes, P., T. Darrell, B. Blumberg, and A. Pentland, "The ALIVE System: Wireless, Full-Body Interaction with Autonomous Agents," *Multimedia Systems*, pp. 105-112, March 1997.

7. Wren, C., A. Azarbayejani, T. Darrell, and P. Pentland, "Pfinder: Real-Time Tracking of the Human Body," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, pp. 780-785, July 1997.

8. Darrell, T., G. Gordon, M. Harville, and J. Woodfill, "Integrated person tracking using stereo, color, and pattern detection," *International Journal of Computer Vision*, *37(2):* 175-185, June 2000.

9. Ackerman, M., T. Darrell, and D. Weitzner, "Privacy in Context," *Human-Computer Interaction*, 16:167-176, 2001.

10. Darrell, T. and M. Covell, "Correspondence with Cumulative Similiarity Transforms," *IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 23*, No. 2, pp. 222-227, February 2001.

11. Taycher, L. and T. Darrell, "Range Segmentation Using Visibility Constraints," *International Journal of Computer Vision*, pp. 89-98, 2002.

12. Demirdjian, D. and T. Darrell, "Using Multiple-Hypothesis Disparity Maps and Image Velocity for 3-D Motion Estimation," *International Journal of Computer Vision*, Kluwer, pp. 219-222, 2002.

13. F. Bentley, K. Tollmar, D. Demirdjian, K. Koile and T. Darrell. "Perceptive Presence," *IEEE Computer Graphics and Applications*, pp. 26-36, September 2003.

14. Fisher, J. and T. Darrell, "Speaker segregation with signal-level audiovisual correspondence," *IEEE Transactions on Multimedia*, pp. 406-413, June 2004.

15. Demirdjian, D., T. Ko, and T. Darrell, "Untethered Gesture Acquisition and Recognition for Virtual World Manipulation,", *Virtual Reality*, Springer, pp. 222-230, 2005.

16. Christoudias, C. M., L. Morency, and T. Darrell, "Non-Parametric Light-Field Deformable Models", *Computer Vision and Image Understanding*, Elsevier, pp. 16-35, October 2006.

17. Wilson, K., and T. Darrell, "Learning a Precedence Effect-like Weighting Function for the Generalized Cross-Correlation Framework", *IEEE Transactions on Audio, Speech, and Language Processing*, pp. 2156-2164, November 2006.

18. Grauman, K., and T. Darrell, "The Pyramid Match Kernel: Discriminative Classification with Sets of Image Features", *Journal of Machine Learning Research (JMLR),* pp 725-760, April 2007.

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19. Taycher, L., J. Fisher, and T. Darrell, "Combining Object and Feature Dynamics in Probabilistic Tracking", *Computer Vision and Image Understanding*, Elsevier, accepted for publication, v.108(3): 243-260, 2007.

20. Rahimi, A., B. Recht, and T. Darrell, "Learning to Transform Time Series with a Few Examples" *IEEE Transactions on Pattern Analysis and Machine Intelligence,* vol. 29, no 10, pp. 1759-1775, October 2007.

21. Quattoni, A., S. Wang, L.-P Morency, M. Collins, and T. Darrell, "Hidden-state Conditional Random Fields", *IEEE Transactions on Pattern Analysis and Machine Intelligence,* accepted for publication, vol. 29, no. 10, pp. 1848-1852, October 2007.

22. Morency, L.-P., C. Sidner, C. Lee, and T. Darrell, "Head Gestures for Perceptual Interfaces: The Role of Context in Improving Recognition", *Artificial Intelligence Journal,* vol. 171, issue 8-9, pp 568-585, June 2007.

23. Rahimi, A., L.-P. Morency, and T. Darrell, Reducing Drift in Differential Tracking, *Computer Vision and Image Understanding (CVIU)*, pp. 97-111, February 2008.

24. Saenko, K., K. Livescu, J. Glass, and T. Darrell, " Multistream Articulatory Feature-Based Models for Visual Speech Recognition", IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), Vol. 31, No. 9, pp. 1700-1707, September 2009.

25. Kapoor, A., K. Grauman, R. Urtasun, and T. Darrell, "Gaussian Processes for Object Categorization", *IJCV,* vol. 88, no. 2, pp. 169-188, June 2010.

26. Stone, Z., T. Zickler, and T. Darrell, "Toward Large-Scale Face Recognition Using Social Network Context", Proceedings of the IEEE, 9 pp., August 2010.

27. A. Kapoor, K. Grauman, R. Urtasun, and T. Darrell, Gaussian Processes for Object Categorization, IJCV, June 2010, Volume 88, Issue 2, pp 169-188

28. S. Miller, J. Van Den Berg, M. Fritz, T. Darrell, K. Goldberg, P. Abbeel, A geometric approach to robotic laundry folding, The International Journal of Robotics Research (IJRR), February 2012 vol. 31 no. 2 249-267

29. S. Chung, C. Christoudias, T. Darrell, S. Ziniel, L. Kalish, A Novel Image Based Tool to Reunite Children with Their Families after Disasters, Academic Emergency Medicine (AEMJ) Volume 19, Issue 11, pages 1227–1234, November 2012

Proceedings of Highly Selective Refereed Conferences:

1. Batchelder, N., and T. Darrell, "Psfig - A Ditroff preprocessor for PostScript figures," *USENIX Conference Proceedings*, Phoenix, AZ, pp. 31-42, June 1987.

2. Darrell, T. and K. Wohn, "Pyramid-based Depth from Focus," in *Proceedings,   Conference on Computer Vision and Pattern Recognition (CVPR '88)*, Ann Arbor, MI, pp. 504-509, June 1988.

3. Pentland, A., T. Darrell, M. Bove, and M. Turk, "A Simple Real-Time Range Camera," in *Proceedings,   Conference on Computer Vision and Pattern Recognition (CVPR '89)*, San Diego, CA, pp. 256-261, June 1989.

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4. Darrell, T. and A. Pentland, "Segmentation by Minimal Description," in *Proceedings, Third International Conference on Computer Vision (ICCV '90)*, Tokyo, Japan, pp. 112-116, December 1990.

5. Darrell, T. and A. Pentland, "On the Representation of Occluded Shapes," in *Proceedings, Conference on Computer Vision and Pattern Recognition (CVPR '91)*, Maui, HI, pp. 728-729, June 1991.

6. Darrell, T. and A. Pentland, "Against Edges: Function Approximation with Multiple Support Maps," in *Advances in Neural Information Processing Systems (NIPS '92)*, Denver, CO, pp. 388-395, December 1992.

7. Darrell, T. and A. Pentland, "Space-Time Gestures," in *Proceedings, Conference on Computer Vision and Pattern Recognition (CVPR '93)*, New York, NY, pp. 335-340, June 1993.

8. Darrell, T. and E. Simoncelli, "Nulling Filters and the Separation of Transparent Motions," in *Proceedings, Conference on Computer Vision and Pattern Recognition (CVPR '93)*, New York, NY, pp. 738.739, June 1993.

9. Johnson, M., P. Maes, and T. Darrell, "Evolving Visual Routines," in *Proceedings, Conference on Artificial Life (ALIFE '94)*, Boston, MA, pp. 373-389, July 1994.

10. Darrell, T., and A. Pentland, "Classifying Hand Gestures with a View-Based Distributed Representation," *Advances in Neural Information Processing Systems (NIPS '94)*, Denver, CO, pp. 945-952, December 1994.

11. Maes, P., B. Blumberg, T. Darrell, A. Pentland, and A. Wexelblat, "Modeling Interactive Agents in ALIVE," *Proceedings of the Fourteenth International Joint Conference on Artificial Intelligence (IJCAI '95)*, Montreal, Canada, pp. 11-18, August 1995.

12. Darrell, T., I. Essa, and A. Pentland, "Correlation and Interpolation Networks for Real time Expression Analysis/Synthesis," in *Advances in Neural Information Processing Systems 7 (NIPS '95)*, Denver, CO, pp. 909-916, December 1995.

13. Darrell, T. and A. Pentland, "Active Gesture Recognition using Learned Visual Attention," in D. S. Touretzky, M. Mozer, and M. Hasselmo, eds., *Advances in Neural Information Processing Systems (NIPS '96)* 8, Denver, CO, pp. 67-72, December 1996.

14. Darrell, T., "A radial cumulative similarity transform for robust image correspondence," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR '98)*, Santa Barbara, CA, pp. 656-663, June 1998.

15. Darrell, T., G. Gordon, M. Harville, and J. Woodfill , "Integrated person tracking using stereo, color, and pattern detection," *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR '98)*, Santa Barbara, CA, pp. 601-609, June 1998.

16. Darrell, T., "Example Based Image Synthesis of Articulated Figures," *Advances in Neural Information Processing Systems 11, (NIPS '98)*, Denver, CO, 768-774, 1999.

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17. Gordon, G., T. Darrell, M. Harville, and J. Woodfill, "Background Estimation and Removal Based on Range and Color," *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR '99)*, Ft. Collins, CO, pp. 459-464, June 1999.

18. Covell, M. and T. Darrell, "Dynamic Occluding Contours: A new external energy term for snakes," *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR '98)*, Ft. Collins, CO, pp. 222-227, June 1999.

19. Harville, M, A. Rahimi, T. Darrell, G. Gordon, and J. Woodfill, "3D Pose Tracking with Linear Depth and Brightness Constraints," *Proceedings of the International Conference on Computer Vision (ICCV '99)*, Corfu, Greece, pp. 206-213, September 1999.

20. Covell, M., A. Rahimi, M. Harville, and T. Darrell, "Articulated-Pose Estimation using Brightness and Depth-Constancy Constraints," *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR '00)*, Hilton Head, SC, pp. 2438-2445, June 2000.

21. Darrell, T., J. Fisher, P. Viola, and B. Freeman, "Audio-visual Segmentation and the Cocktail Party Effect," *Proceedings of the International Conference on Multimodal Interfaces (ICMI '00)*, Beijing, China, pp. 32-40, October 2000.

22. Fisher, J., J. Trevor, B. Freeman, and P. Viola, "Learning Joint Statistical Models for Audio-Visual Fusion and Segregation," *Advances in Neural Information Processing Systems 13 (NIPS '00)*, Denver, CO, pp. 772-778, December 2000

23. Shakhnarovich, G., L. Lee, and T. Darrell, "Integrated Face and Gait Recognition from Multiple Views," *Proceedings IEEE Conference on Computer Vision and Pattern Recognition (CVPR '01)*, Kauai, HI, pp. 439-446, December 2001.

24. Rahimi, A., L.-P. Morency, and T. Darrell, "Reducing Drift in Parametric Motion Tracking," *Proceedings of the International Conference on Computer Vision (ICCV '01)*, Vancouver, Canada, pp. 315-322, July 2001.

25. Demirdjian, D. and T. Darrell, "Motion Estimation from Disparity Images," *Proceedings of the International Conference on Computer Vision (ICCV '01)*, Vancouver, Canada, pp. 13-16, July 2001.

26. Darrell, T., D. Demirdjian, N. Checka, and P. Felzenswalb, "Plan-view Trajectory Estimation with Dense Stereo Background Models," *Proceedings of the International Conference on Computer Vision (ICCV '01)*, Vancouver, Canada, pp. 628-635, July 2001.

27. Shakhnarovich, G., J. Fisher, and T. Darrell, "Face recognition from long-term observations," *Proceedings of European Conference on Computer Vision (ECCV '02)*, Copenhagen, Denmark, pp. 850-868, May 2002.

28. Fisher, J., and T. Darrell, "Probabilistic models and informative subspaces for audiovisual correspondence," *Proceedings of European Conference on Computer Vision (ECCV '02)*, Copenhagen, Denmark, pp. 592-603, May 2002.

29. Darrell, T., K. Tollmar, F. Bentley, N. Checka, L.-P. Morenecy, A. Rahimi, and A. Oh, "Face-responsive interfaces: from direct manipulation to perceptive presence," *Proceedings*

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Ubiquitous Computing Conference, (UBICOMP '02), Goteburg, Sweden, pp. 135-151, September 2002.

30. Demirdjian, D. and T. Darrell, "3-D articulated pose tracking for untethered deictic reference," *Proceedings International Conf. on Multimodal Interfaces*, Pittsburgh, PA, pp. 267-272, October 2002.

31. Wilson, K., V. Rangarajan, N. Checka, and T. Darrell, "Audiovisual arrays for untethered spoken interface," *Proceedings International Conference on Multimodal Interfaces,* Pittsburgh, PA, p. 389-394, October 2002.

32. Rahimi, A. and T. Darrell, "Location Estimation with a Differential Update Network," *Advances in Neural Information Processing, (NIPS '02)*, Vancouver, Canada, pp. 1049-1056, December 2002.

33. Taycher, L., J. W. Fisher III, and T. Darrell, "Recovering Articulated Model Topology from Observed Motion," *Advances in Neural Information Processing Systems, (NIPS '02)*, Vancouver, Canada, pp. 1311-1318, December 2002.

34. Morency, L., A. Rahimi, and T. Darrell, "Adaptive View-based Appearance Model," *Proceedings IEEE Conference on Computer Vision and Pattern Recognition (CVPR '03)*, Madison, WI, pp. 803-810, June 2003.

35. Demirdjian. D., T. Ko, and T. Darrell, "Constraining Human Body Tracking," *Proceedings International Conference on Computer Vision, (ICCV '03)*, Nice, France, pp. 1071-1078, October 2003.

36. Grauman, K., G. Shakhnarovich, and T. Darrell, "Inferring 3D Structure with a Statistical Shape Model," *Proceedings International Conference on Computer Vision (ICCV '03)*, Nice, France, pp. 641-648, October 2003.

37. Shakhnarovich. G., P. Viola, and T. Darrell, "Fast Pose Estimation with Parameter-sensitive Hashing," *Proceedings International Conference on Computer Vision (ICCV '03)*, Nice, France, pp. 750-757, October 2003.

38. Koile, K., K. Tollmar, D. Demirdjian, and T. Darrell, "Activity Zones for Context-Aware Computing," *Proceedings, Ubiquitous Computing Conference (UBICOMP '03)*, Seattle, WA, pp. 90-106, October 2003.

39. Siracusa, M., K. Wilson, L. Morency, J. Fisher, and T. Darrell, "A Multi-Modal Approach for Determining Speaker Location and Intent," *Proceedings, International Conference Multimodal Interfaces (ICMI '03)*, Vancouver, Canada, pp. 77-80, November 2003.

40. Ko, T., D. Dermidjian, and T. Darrell, "Untethered Gesture Acquisition and Recognition for a Multimodal Conversational System," *Proceedings, International Conference. Multimodal Interfaces (ICMI '03)*, Vancouver, Canada, pp. 147-150, December 2003.

41. Grauman, K., G. Shakhnarovich, and T. Darrell, "A Bayesian Approach to Image-Based Visual Hull Reconstruction," *Proceedings IEEE Conference on Computer Vision and Pattern Recognition, (CVPR '03)*, Madison, WI, pp. 187-194, June 2003.

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42. Christoudias, C. M., L. Morency, and T. Darrell, "Light Field Appearance Manifolds," *Proceedings of the European Conference on Computer Vision (ECCV '04)*, Prague, Czech Republic, pp. 481-493, May 2004.

43. Rahimi, A. and T. Darrell, "Tracking People with a Sparse Network of Bearing Sensors," *Proceedings of the European Conference on Computer Vision, (ECCV'04)*, Prague, Czech Republic, pp. 507-518, May 2004.

44. Grauman, K. and T. Darrell, "Fast Contour Matching Using Approximate Earth Mover's Distance," *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '04)*, Washington, DC, Vol. 1, pp. 220-227, June 2004.

45. Rahimi, A., B. Dunagan, and T. Darrell, "Simultaneous Calibration and Tracking with a Network of Non-Overlapping Sensors," *Proceedings, Conference on Computer Vision and Pattern Recognition (CVPR '04)*, Washington, DC, pp. 187-194, June 2004.

46. Yeh, T., K. Tollmar, and T. Darrell, "Searching the Web with Mobile Images for Location Recognition," in *Proceedings, Conference on Computer Vision and Pattern Recognition (CVPR '04)*, Washington, DC, pp. 76-81, July 2004.

47. Morency, L.-P., and T. Darrell, "From Conversational Tooltips to Grounded Discourse: Head Pose Tracking in Interactive Dialog Systems," *International Conference on Multimodal Interfaces (ICMI '04)*, State College, PA, pp. 32-37, October 2004.

48. K. Saenko, T. Darrell, and J. Glass, "Articulatory Features for Robust Visual Speech Recognition," *Proceedings, International Conference on Multimodal Interfaces (ICMI)*, State College, PA, pp. 152-158, October 2004.

49. Quattoni, A., M. Collins, and T. Darrell, "Conditional Random Fields for Object Recognition," *Advances in Neural Information Processing (NIPS '04)*, Vancouver, Canada, pp. 1097-1104, December 2004.

50. Yeh, T., K. Grauman, K. Tollmar, and T. Darrell, "A Picture is Worth a Thousand Keywords: Image-Based Object Search on a Mobile Platform," *Proceedings ACM Conference on Human Factors in Computer Systems (CHI '05)*, Portland, OR, pp. 2025-2028, April 2005.

51. Grauman, K. and T. Darrell, "Efficient Image Matching with Distributions of Local Invariant Features," *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '05)*, San Diego, CA, vol. 2, pp. 627-634, June 2005.

52. Rahimi, A., B. Recht, and T. Darrell, "Learning Appearance Manifolds from Video," *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '05)*, San Diego, CA, vol. 1, pp. 868-875, June 2005.

53. Christoudias, C. M. and T. Darrell, "On Modelling Nonlinear Shape-and-Texture Manifolds," *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '05)*, San Diego, CA, vol. 2, pp.1067-1074, June 2005.

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54. Taycher, L., J. W. Fisher, and T. Darrell, "Combining Object and Feature Dynamics in Probabilistic Tracking," *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '05)*, San Diego, CA, vol. 2, pp.106-113, June 2005.

55. Arandjelovi, O., G. Shakhnarovich, J. Fisher, R. Cipolla, and T. Darrell, "Face recognition with image sets using manifold density divergence," *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '05)*, San Diego, CA, vol. 1, pp- 581-588, June 2005.

56. Grauman, K., and T. Darrell, "The Pyramid Match Kernel: Discriminative Classification with Sets of Image Features", *Proceedings of the International Conference on Computer Vision, (ICCV '05)*, Beijing, China, pp. 1458-1465, October 2005.

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58. Demirdjian, D., L. Taycher, G. Shakhnarovich, K. Grauman, and T. Darrell, "Avoiding the 'Streetlight Effect': Tracking by Exploring Likelihood Modes, *Proceedings of the International Conference on Computer Vision (ICCV '05)*, Beijing, China, pp. 357-364, October 2005.

59. Morency, L.P., C. Sidner, C. Lee, and T. Darrell, "Contextual Recognition of Head Gestures," *International Conference on Multimodal Interfaces (ICMI '05)*, *(Best paper award),* Trento, Italy, pp. 18-24, October 2005. Also appears in *Proc. AAAI-06, NECTAR track,* July 2006.

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61. Taycher, L., G. Shakhnarovich, D. Demirdjian, and T. Darrell, "Conditional Random People: Tracking Humans with CRFs and Grid Filters," *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '06)*, New York City, New York, pp. 222-229, June 2006.

62. Wang, S., A. Quattoni, L.P. Morency , D. Demirdjian, and T. Darrell, "Hidden Conditional Random Fields for Gesture Recognition," *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '06)*, New York City, New York, June 2006 pp. 1521-1527, June 2006.

63. K. Grauman, and T. Darrell, Unsupervised Learning of Categories from Sets of Partially Matching Image Features," *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '06)*, New York City, New York, pp. 19-25, June 2006.

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65. Christhoudias, M., K. Saenko, L. Morency, and T. Darrell, Co-Adaptation of Audio-Visual Speech and Gesture Classifiers, *International Conference on Multimodal Interfaces, (ICMI '06),* Banff, Canada, pp. 84-91, October 2006.

66. Grauman, K., and T. Darrell, Approximate Correspondences in High Dimensions, *Advances in Neural Information Processing (NIPS '06)*, Vancouver, Canada, 10 pp., December 2006.

67. Quattoni, A., M. Collins, and T. Darrell, Learning Visual Representations using Images with Captions, *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '07),* Minneapolis, pp. 1-8, June 2007

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69. Morency, L.-P., A. Quattoni, and T. Darrell, Latent Dynamic Discriminative Models for Continuous Gesture Recognition, *Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR '07),* Minneapolis, pp. 1-8, June 2007

70. Urtasun, R. and T. Darrell, Discriminative Gaussian Process Latent Variable Models for Classification, *Proceedings International Conference in Machine Learning (ICML '07),* Corvalis, Oregon, pp. 927-934, June 2007.

71. Kapoor, A., K. Grauman, R.Urtasun, and T. Darrell, "Active Learning with Gaussian Processes for Object Categorization", *Proceedings International Conference on Computer Vision (ICCV '07),* Rio De Janeiro, Brazil, 8 pp., October 2007.

72. Yeh, T., J. Lee, and T. Darrell, "Adaptive Vocabulary Forests for Dynamic Indexing and Category Learning", *Proceedings International Conference on Computer Vision (ICCV '07),* Rio De Janeiro, Brazil, 8 pp., October 2007.

73. Wang, S., D. Demirdjian, and T. Darrell, "Detecting communication errors from visual cues during the system's conversational turn", *Proceedings International Conference on Multimodal Interfaces (ICMI '07),* 8 pp., Nagoya, Japan, November 2007.

74. Christoudias, M., R. Urtasun and T. Darrell, "Multi-View Learning in the Presence of View Disagreement", 9 pp., *In Proceedings of the Conference on Uncertainty in Artificial Intelligence (UAI)*, 2008.

75. R. Urtasun, D. J. Fleet, A. Geiger, J. Popovic, T. Darrell and N. D. Lawrence, "Topologically-Constrained Latent Variable Models", *In International Conference in Machine Learning (ICML),* pp. 104-118, Helsinki, Finland, July 2008

76. Christoudias, M., R. Urtasun and T. Darrell, "Unsupervised Feature Selection via Distributed Coding for Multi-view Object Recognition", 8pp., *Conference on Computer Vision and Pattern Recognition CVPR 2008*, Anchorage, AK, June 2008

77. Quattoni, A., M. Collins, T. Darrell, "Transfer Learning for Image Classification with Sparse Prototype Representations", 8 pp., *Conference on Computer Vision and Pattern Recognition CVPR 2008*, Anchorage, AK, June 2008

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79. Urtasun R., and T. Darrell, "Sparse probabilistic regression for activity-independent human pose inference". 8 pp*., Conference on Computer Vision and Pattern Recognition CVPR 2008*, Anchorage, AK, June 2008

80. Stone, Z., T. Zickler, and T. Darrell, "Autotagging Facebook: Social Network Context Improves Photo Annotation", *IEEE Workshop on Internet Vision*, 8 pp., Anchorage, AK, June 2008. (Best Paper Award.)

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82. Saenko, K., and T. Darrell, "Unsupervised Learning of Visual Sense Models for Polysemous Word", *Proc. NIPS 2008*, 8 pp., Vancouver, Canada, December 2008.

83. Yeh, T., and T. Darrell, "Fast Concurrent Object Localization and Recognition", 8pp., To appear in the *Conference on Computer Vision and Pattern Recognition, CVPR 2009.*

84. Christoudias, M., R. Urtasun, A. Kapoor and T. Darrell, "Co-training with Noisy Perceptual Observations", 8 pp., To appear in the *Conference on Computer Vision and Pattern Recognition, CVPR 2009.*

85. Geiger, A., R. Urtasun, and T. Darrell, "Rank Priors for Continuous Non-Linear Dimensionality Reduction", 8 pp., To appear in the *Conference on Computer Vision and Pattern Recognition, CVPR 2009.*

86. Frampton, M., R. Fernandez, P. Ehlen, M. Ehlen, M. Christoudias, T. Darrell and S. Peters (2009) *"Who is ``You"? Combining Linguistic and Gaze Features to Resolve Second-Person References in Dialogue"*, 9 pp., *Proceedings of EACL'09*, Athens, Greece

87. Quattoni, A., X. Carreras, M. Collins, T. Darrell, "An Efficient Projection for $l1,\infty$ Regularization", *Proc. International Conference on Machine Learning 2009,* 8 pp. Montreal, 2009.

88. Fritz. M., M. Black, G. Bradski, and T. Darrell, An Additive Latent Feature Model for Transparent Object Recognition, NIPS 2009, 9pp.

89. Kulis, B., and T. Darrell, Learning to Hash with Binary Reconstructive Embeddings, NIPS 2009, 9pp.

90. Saenko K., and T. Darrell, Filtering Abstract Senses From Image Search Results, NIPS 2009, 9 pp

91. Salzmann, M., C. H. Ek, R. Urtasun, and T. Darrell. Factorized orthogonal latent spaces. In Proceedings of the Thirteenth International Conference on Artificial Intelligence and Statistics, May 2010. (8 pp.)

92. Christoudias, M., R. Urtasun, M. Salzmann, and T. Darrell, Learning to Recognize Objects from Unseen Modalities, ECCV 2010. (14 pp.)

CURRICULUM VITAE OF TREVOR J. DARRELL

93. Saenko, K., B. Kulis, M. Fritz, and T. Darrell, Adapting Visual Category Models to New Domains, ECCV 2010. (14 pp.)

94. Fritz, M., K. Saenko, and T. Darrell, Size Matters: Metric Visual Search Constraints from Monocular Metadata, NIPS 2010. 9pp

95. Jia, Y., M. Salzmann, and T. Darrell, Factorized Latent Spaces with Structured Sparsity, NIPS 2010 9pp

96. Miller, S., M. Fritz, T. Darrell, P. Abbeel, Parametrized Shape Models for Clothing, ICRA 2011, 8pp

97. Shyr, A., T. Darrell, M. Jordan, and R. Urtasun, Supervised Hierarchical Pitman-Yor Process for Natural Scene Segmentation, CVPR 2011, 8pp

98. Kulis, B., K. Saenko, and T. Darrell, What You Saw is Not What You Get: Domain Adaptation Using Asymmetric Kernel Transforms, CVPR 2011, 8pp

99. Owens, K. Saenko, A. Chakrabarti, Y. Xiong, T. Zickler, and T. Darrell. Learning Object Color Models from Multi-view Constraints, CVPR 2011, 8pp

100. Karayev, S., Y. Jia, S. Fidler, M. Fritz, and T. Darrell, A Probabilistic Model for Recursive Factorized Image Features, CVPR 2011, 8pp

101. Y. Jia and T. Darrell, Heavy-tailed Distances for Gradient Based Image Descriptors, NIPS 2011, 8pp.

102. R. Farrell, O. Oza, N. Zhang, V. Morariu, T. Darrell, and L. Davis, Birdlets: Subordinate Categorization Using Volumetric Primitives and Pose-Normalized Appearance, ICCV 2011, 8pp.

103. T. Tuytelaars, M. Fritz, K. Saenko, and T. Darrell, The NBNN Kernel, ICCV 2011, 8pp.

104. Y. Jia, M. Salzmann, and T. Darrell, Learning Cross-modality Similarity for Multinomial Data, ICCV 2011, 8pp.

105. H O. Song, M. Fritz, C. Gu and T. Darrell, Visual Grasp Affordances From Appearance-Based Cues, ICCV Workshop on Challenges and Opportunities in Robot Perception, 2011, 8pp.

106. P. Wang, S. Miller, M. Fritz, T. Darrell, and P. Abbeel, Perception for the Manipulation of Socks, IROS 2011, 8pp.

107. K. Saenko, Y. Jia, M. Fritz, J. Long, A. Janoch, A. Shyr, S. Karayev and T. Darrell, Practical 3-D Object Detection Using Category and Instance-Level Appearance Models, IROS 2011, 8pp.

108. S. Miller, M. Fritz, T. Darrell, and P. Abbeel, Parametrized Shape Models for Clothing, ICRA 2011, 8pp.

109. S. Karayev, M. Fritz, T. Darrell, Timely Object Recognition, NIPS 2012, 8pp.

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110. O. Vinyals, Y. Jia, L. Deng, T. Darrell, Learning with Recursive Perceptual Representations, NIPS 2012, 8pp.

111. J. Hoffman, B. Kulis, T. Darrell, K. Saenko, Discovering Latent Domains for Multisource Domain Adaptation, ECCV 2012, 14 pp.

112. H. O. Song, S. Zickler, T. Althoff, R. Girshick, M. Fritz, C. Geyer, P. Felzenszwalb, T. Darrell, Sparselet Models for Efficient Multiclass Object Detection, ECCV 2012, 14 pp.

113. S. Virtanen, Y. Jia, A. Klami, T. Darrell. Factorized Multi-modal Topic Model. UAI 2012, 9 pp.

114. Y. Xiong, K. Saenko, T. Zickler, T. Darrell, From Pixels to Physics: Probabilistic Color De-rendering, CVPR 2012, 8pp.

115. N. Zhang, R. Farrell, T. Darrell. Pose Pooling Kernels for Sub-category Recognition. CVPR 2012, 8pp.

116. Y. Jia, C. Huang, T. Darrell. Beyond Spatial Pyramids: Receptive Field Learning for Pooled Image Features, CVPR 2012, 8pp.

117. V. Chu, I. McMahon, L. Riano, C. G. McDonald, Q. He, J. Perez-Tejada, M. Arrigo, N. Fitter, J. Nappo, T. Darrell, and K. J. Kuchenbecker. Using robotic exploratory procedures to learn the meaning of haptic adjectives. ICRA 2013. Best Cognitive Robotics Paper Award, 8pp.

118. J. Hoffman, E. Rodner, J. Donahue, T. Darrell, K. Saenko, Efficient Learning of Domain-invariant Image Representations, ICLR 2013 Conference, 9pp.

119. J. Donahue, J. Hoffman, E. Rodner, K. Saenko, T. Darrell, Semi-Supervised Domain Adaptation with Instance Constraints, CVPR 2013, 8pp.

120. Y. Jia, O. Vinyals, T. Darrell. On Compact Codes for Spatially Pooled Features. ICML 2013, 9pp.

121. H. O. Song, R. Girshick, T. Darrell, Discriminatively Activated Sparselets, ICML 2013, 9pp.

Other Major Publications

1. Darrell, T. and A. Pentland, "Robust Estimation of a Multi-Layer Motion Representation," in *Proceedings, IEEE Workshop on Visual Motion*, IEEE Computer Society Press, Princeton, NJ, pp. 173-178, 1991.

2. Essa, I., T. Darrell, and A. Pentland, "Tracking Facial Motion," in *Proceedings, IEEE Workshop on Motion of Nonrigid and Articulated Objects*, IEEE Computer Society Press, pp. 36-42, 1994.

CURRICULUM VITAE OF TREVOR J. DARRELL

3. Pentland, A., T. Darrell, A. Azarbayejani, and S. Sclaroff, "Visually Guided Animation," in *Proceedings, IEEE Conf. on Computer Animation*, IEEE Computer Society Press, Geneva, pp. 112-121,1994.

4. Darrell, T., P. Maes, B. Blumberg, and A. Pentland, "A Novel Environment for Situated Vision and Behavior," in *Proceedings, CVPR'94 Workshop on Visual Behaviors*, June 1994; also in *Exploratory vision: the active eye, Springer-Verlag, pp.319-331. 1996*.

5. Darrell, T., A. Azarbayejani, and A. Pentland, "Robust Estimation of Multiple Models in the Structure from Motion Domain," in *Proceedings, IEEE Workshop on Performance vs. Methodology*, Seattle, WA, June 1994.

6. Maes, P., T. Darrell, B. Blumberg, and A. Pentland, "The ALIVE System: Full-Body Interaction with Autonomous Agents," in *Proceedings, IEEE Conf. on Computer Animation*, IEEE Computer Society Press, Geneva, Switzerland, pp. 11-18, April 1995.

7. Darrell, T. and A. Pentland, "Attention-driven Expression and Gesture Analysis in an Interactive Environment," in *Proceedings, Intl. Workshop on Automatic Face and Gesture Recognition*, Zurich, Switzerland, pp. 135-140, June 1995.

8. Darrell, T., G. Gordon, J. Woodfill, H.H. Baker, and M. Harville, "Robust, real-time people tracking in open environments using integrated stereo, color, and face detection," *IEEE ICCV Workshop on Visual Surveillance*, Bombay, India, pp. 26-28, January 1998.

9. Darrell, T., G. Gordon, M. Harville, and J. Woodfill, "A Virtual Mirror Interface using Real-time Robust Face Tracking," *Proceedings of the Conference on Automatic Face and Gesture Recognition,* Nara, Japan, pp. 616-622, April 1998.

10. Wilson, K., N. Checka, D. Demirdjian, and T. Darrell, "Audio-Video Array Source Separation for Perceptual User Interfaces," *Perceptive User Interfaces 2001 vol. 2*, Orlando, FL, pp. 1-7, November 2001.

11. Fisher, J. and T. Darrell, "Signal-Level Audio Video Fusion Using Information Theory," *Perceptive User Interfaces 2001 vol. 1*, Orlando, FL, pp. 1-7, November 2001.

12. Taycher, L. and T. Darrell, "Range Segmentation Using Visibility Constraints," *Proceedings, IEEE CVPR Workshop on Stereo and Multi-Baseline Vision*, Kauai, HI, pp. 89-98, December 2001.

13. Demirdjian, D. and T. Darrell., "Using Multiple-Hypothesis Disparity Maps and Image Velocity for 3-D Motion Estimation," *Proceedings, IEEE CVPR Workshop on Stereo and Multi-Baseline Vision*, Kauai, HI, pp. 219-222, December 2001.

14. Taycher, L, J. Fisher, and T. Darrell, "Recovering Articulated Model Topology from Observed Motion," *Proceedings, ECCV Workshop on Statistical Methods in Video Processing*, Copenhagen, pp. 1311-1318, 2002.

15. Oh, A., H. Fox, M. von Kleek, A. Adler, K. Gajos, L.-P. Morency, and T. Darrell, "Evaluating Look-to-Talk: A Gaze-Aware Interface in a Collaborative Environment."

CURRICULUM VITAE OF TREVOR J. DARRELL

(extended abstract) *Proceedings, Conference on Human Factors in Computer Systems (CHI '02)*, Minneapolis, MI, pp. 650-651, April 2002.

16. Shakhnarovich, G. and T. Darrell, "On Probabilistic Combination of Face and Gait Cues for Identification," *Proceedings of the International Conference on Automatic Face and Gesture Recognition (FG'02)*, Washington D.C., pp. 176-181, May 2002.

17. Morency, L.-P., A. Rahimi, N. Checka , and T. Darrell, "Fast Stereo-Based Head Tracking for Interactive Environments," *Proceedings of the International Conference on Face and Gesture Recognition*, Washington D.C., pp. 390-395, May 2002.

18. Wilson, K. and T. Darrell, "Audio-Video Array Source Localization for Intelligent Environments," *Proceedings, International Conference Acoustics Speech and Signal Processing (ICASSP '02)*, Orlando, FL, pp. 2109-2112, May 2002.

19. Darrell, T., J. Fisher, and K. Wilson, "Geometric and statistical approaches to audiovisual segmentation for untethered interaction," *International CLASS Workshop on Multimodal Dialog Systems*, Copenhagen, Denmark, 2002; also in *Advances in Natural Multimodal Dialog Systems*, Springer, pp 175-194, 2006.

20. Morency, L.-P., A. Rahimi, and T. Darrell, "Fast 3D Model Acquisition from Stereo Images," *Proceedings 3D Data Processing Visualization and Transmission*, Padova, Italy, pp. 172-176, June 2002

21. Morency, L.-P. and T. Darrell, "Stereo Tracking using ICP and Normal Flow," *Proceedings International Conference on Pattern Recognition*, Quebec, Canada, pp. 367-372, August 2002.

22. Rahimi, A. and T. Darrell, "Bayesian Network for Online Global Pose Estimation," *International Conference on Intelligent Robots and Systems*, Lausanne, Switzerland, pp. 427-433, October 2002

23. Tollmar, K., D. Demirdjian, D., and T. Darrell, "Gesture + Play: Exploring Full Body Navigation for Virtual Environments," in *Proc. of CVPR Workshop on HCI*, Madison, WI, June 2003; also ACM Conference on Human-Computer Interaction (CHI '03) Formal Demonstration, Ft. Lauderdale, pp. 620-621, April 2003.

24. Checka, N., K. Wilson, V. Rangarajan, and T. Darrell, "A Probabilistic Framework for Multi-modal Multi-person Tracking," *Proceedings of CVPR Workshop on Multi-Object Tracking*, Madison, WI, June 2003.

25. Morency, L., P. Sundberg, and T. Darrell, "Pose Estimation using 3D View-Based Eigenspaces," *ICCV Workshop on Analysis and Modeling of Faces and Gestures*, Nice, France, pp. 45-52, October 2003.

26. Taycher, L. and T. Darrell, "Bayesian Articulated Tracking Using Single Frame Pose Sampling." *Proceedings, International Workshop on Statistical and Computational Theories of Vision*, Nice, France, October 2003.

CURRICULUM VITAE OF TREVOR J. DARRELL

27. Yeh, T., K. Tollmar, and T. Darrell, "IDeixis: Image Based Deixis for Finding Location-Based Information," *ACM Conference on Human-Computer Interaction (CHI '04)* Formal Demonstration, pp.781-782; also accepted to Video Proceedings, Vienna, Austria, April 2004.

28. Lee, C., N. Lesh, C. Sidner, L. Morency, A. Kapoor, and T. Darrell, "Nodding in Conversations With a Robot," *ACM Conference on Human-Computer Interaction (CHI '04)* Formal Demonstration, Vienna, Austria, pp.785-786, April 2004.

29. Checka, N., K. Wilson, M. Siracusa, and T. Darrell, "Multiple Person and Speaker Activity Tracking with a Particle Filter," *Proceedings, International Conference on Acoustics, Speech, and Signal Processing (ICASSP '04)*, Montreal, Quebec, pp. 881-884, May 2004

30. Grauman, K., G. Shakhnarovich, and T. Darrell, "Virtual Visual Hulls: Example-Based 3D Shape Inference from a Single Silhouette," in *Proceedings of the 2nd Workshop on Statistical Methods in Video Processing, in conjunction with ECCV 2004*, Prague, Czech Republic, pp. 26-37, May 2004.

31. Taycher, L., J.W. Fisher, and T. Darrell,, "Combining Simple Models to Approximate Complex Dynamics," *Proceeding,s ECCV Workshop Statistical Methods in Video Processing*, Prague, Czech Republic, pp. 94-104, May 2004.

32. Tollmar, K., T. Yeh, and T. Darrell, "IDeixis - Searching the Web with Mobile Images for Location-Based Information," *Proceedings, Mobile HCI '04*, Glasgow, UK, pp. 288-299, September 2004.

33. Tollmar, K., D. Demirdjian, and T. Darrell,, "Navigating in Virtual Environments using a Vision-based Interface," in *Proceedings of NordiCHI*, Tampere, Finland, pp. 112-120, October 2004.

34. Taycher, L., J.W. Fisher, and T. Darrell, "Incorporating Object Tracking Feedback into Background Maintenance Framework," *Proceedings, IEEE Motion Workshop*, Breckenridge, CO, pp. 120-125, January 2005.

35. Yeh, T. and T. Darrell, "Doubleshot: an interactive user-aided segmentation tool," *International Conference on Intelligent User Interfaces (IUI'05)* (short paper), San Diego, CA, pp. 287-289, January 2005.

36. Shakhnarovich G., and Darrell, T., "Learning task-specific visual similarity", *Learning Workshop 2005,* 2pp., Snowbird, UT.

37. Quattoni. A., M. Collins, and T. Darrell, "Conditional Random Fields for Object Recognition", *Learning Workshop 2005,* 2pp., Snowbird, UT.

38. Wilson, K. and T. Darrell, "Improving Audio Source Localization by Learning the Precedence Effect," *Proceedings, International Conference on Acoustics, Speech, and Signal Processing (ICASSP '05)*, Philadelphia, PA , pp. 1125-1128, March 2005

CURRICULUM VITAE OF TREVOR J. DARRELL

39. K. Saenko, K. Livescu, J. Glass, and T. Darrell, "Production Domain Modeling of Pronunciation for Visual Speech Recognition," *Proceedings, International Conference on Acoustics, Speech, and Signal Processing (ICASSP '05)*, Philadelphia, PA, pp. 1424-1431, March 2005

40. Quattoni, A., M. Collins, and T. Darrell, "Incorporating Semantic Constraints into a Discriminative Categorization and Labeling Model", *ICCV Workshop on Semantic Knowledge in Computer Vision*, *http://www.research.ge.com/ vision/skcv05/*, 5 pp., abstract at *Proceedings ICCV 2005,* p. 1877, 2005.

41. Quattoni, A., M. Collins, and T. Darrell, "Learning Visual Representations using Images with Captions", *Learning Workshop*, San Juan, Puerto Rico, 2 pp., March 2007.

42. Saenko, K. and T. Darrell, "Object Category Recognition Using Probabilistic Fusion of Speech and Image Classifiers". *Proc. Machine Learning for Multimodal Interfaces (MLMI07)*, pp. 36-47, Brno, Czech Republic., June 2007

43. Morency, L.-P. and T. Darrell: "Conditional Sequence Model for Context-Based Recognition of Gaze Aversion". *Proc. Machine Learning for Multimodal Interfaces (MLMI07)*, pp. 11-23, Brno, Czech Republic., June 2007

44. Yeh, T., and T. Darrell, "Multimodal Question Answering for Mobile Devices", *IUI 2008* (short paper), Pages 405-408, ACM, 2008

45. Yeh, T., J. Lee, and T. Darrell, "Scalable classifiers for Internet vision tasks", *IEEE Workshop on Internet Vision*, 8 pp., Anchorage, AK, June 2008

46. Urtasun, R. and T. Darrell, "Local Probabilistic Regression for Activity-Independent Human Pose Inference." *In Learning Workshop 2008*, Snowbird, Utah, April 2008

47. Urtasun, R, A. Quattoni, N. D. Lawrence and T. Darrell, "Transfering Nonlinear Representations using Gaussian Processes with a Shared Latent Space" In *Learning Workshop 2008,* Snowbird, Utah, April 2008

48. Christoudias, M., R. Urtasun, A. Kapoor, and T. Darrell, "Co-training with Noisy Perceptual Observations", to appear *Learning Workshop 2009,* 2pp., Clearwater, FL, April 2009

49. Urtasun, R., A., Geiger and T. Darrell, "Rank Priors for Continuous Non-Linear Dimensionality Reduction", to appear *Learning Workshop 2009,* 2pp., Clearwater, FL, April 2009

50. M. Salzmann, C. H. Ek, R. Urtasun, and T. Darrell. "FOLS: Factorized orthogonal latent spaces". In Learning Workshop, Snowbird, April 2010

51. Saenko, K., B. Kulis, M. Fritz, and T. Darrell, "Image Domain Adaptation Using Metric Learning", In Learning Workshop, Snowbird, April 2010

CURRICULUM VITAE OF TREVOR J. DARRELL

52. S. Karayev, A. Janoch, Y. Jia, J. Barron, M. Fritz, K. Saenko, and T. Darrell, A Category-level 3-D Database: Putting the Kinect to Work, in ICCV 2011 Workshop on Consumer Depth Cameras for Computer Vision, 2011, 8pp.

53. O. Vinyals, Y. Jia, T. Darrell, Why Size Matters: Feature Coding as Nystrom Sampling, ICLR 2013 Workshop, 3pp.

54. T. Althoff, H. O. Song, T. Darrell, Detection Bank: An Object Detection Based Video Representation for Multimedia Event Recognition, ACM MM 2012, 4pp.

V. Invited Lectures

"Real-time Gesture Recognition": Stanford Assoc. Perception Seminar (SAPS), Stanford U., Stanford, CA; D. Heeger, host; March 1994; Vision Group Seminar, Xerox Palo Alto Research Center (PARC), Palo Alto, CA; M. Black, host; March 1994; Virtual Reality Group Seminar, NASA Ames Research Center, Menlo Park, CA; U. Bucher, host; March 1994.

"Looking at People": Research Seminar, Signal Processing Research Laboratory, NEC Corporation, Kanagawa, Japan; A. Yamada, host; October 1994; Research Seminar, CAD/CAM Laboratory, Korea Institute of Science and Technology (KIST), Seoul, Korea; H. Ko, host; October 1994.

 "Vision for Human-Computer Interface": Mobile Robotics and Vision Group, Osaka University, Osaka, Japan; M. Asada, host; March 1995; Autonomous Agents Group, ATR Laboratories, Kyoto, Japan; K. Mase, host; March 1995.

"Perceptual Computer Interfaces" Computer Science Colloquium, University of Pennsylvania, D. Metaxis, host, October 97; Computer Vision Group Seminar, University of Maryland, Y. Yacoob, host, October 97; AI Seminar, UC Berkeley, J.Malik, host, March 97; Seminar in People, Computers, Design, Stanford University, T. Winograd, host, October 1996.

"Computer Vision for Interactive Interfaces", Intel Corporation, Santa Clara, November 1998.

 "Computer Vision Tutorial," User Interface Software Technology Conference (UIST '00), San Diego, 2000

 "Robust Visual Analysis for Perceptual User Interfaces," Microsoft Research, S. Shafer host, March 2000; SRI International, B. Marks, host, March 2000.

 "Perceptive Context for Pervasive Computing," OGI HCI Lecture series, S. Oviatt, host, August 2001; University of Tokyo ISMMS Seminar, K Ikeuchi host, March 2002.

"Vision for non-verbal conversation cues: speaker segregation, visual attention, and deictic reference," Cambridge University, R. Cippola, host, October 2002.

CURRICULUM VITAE OF TREVOR J. DARRELL

"Computer Vision for Human Computer Interface Tutorial," ACM CHI Conference, Ft. Lauderdale, FL, 2003.

"Computer Vision for Perceptual Context and Multimodal Interface," Boston University, S. Sclaroff, host., November 2003; Dartmouth College, H. Farid, host, March 2003; IBM Watson, C. Neti, host, March 2003.

"Visual Conversation Cues and Perceptive Devices," Johns Hopkins University, G Hager, host, December 2004.

"Visual Recognition for Perceptive Interfaces", Oxford University, A. Fitzgibbons, host, March 2005; Cambridge University, R. Cipolla, host, March 2005; KTH-Stockholm, J.-O. Eklund, host, March 2005.

"Efficient image matching and perceptually situated searching", Google Inc., M. Covell., host, November 2005; Yahoo Labs, M. Davis, host, December 2005.

"Visual Recognition and Tracking for Perceptive Interfaces", Stanford University CS Broad Area Colloqium, D. Koller, host, May 2006; Columbia University, S. Nayar, host, September 2006; CMU, A. Efros, host, September 2006; Microsoft Research, R. Szeliski, host, September 2006; University of Toronto, D. Fleet, host, September 2006; UCSD, D. Kriegman, host, October 2006; USC, G. Medioni, host, October 2006; University of Maryland, L. Davis, host, October 2006; UCLA, S. Soatto, host, November 2006.

"New Representations for Visual Recognition," Woods Hole Oceanographic Institution, Hanumant Singh, host, July 2006.

"Recent results on tracking and recognition," Oxford University, A. Zisserman, host, August 2006.

"Visual Learning and Multimodal Interaction". Dagstuhl Seminar, J.-O. Eklund chair, June 2007; International Computer Science Institute Seminar, June 2007; UC Berkeley EECS Seminar, September 2007

"Image Context, Efficient Indexing, and Sense-Specific Category Models", Dagstuhl Seminar, S. Boll chair, June 2008

"Visual Grounding for Robots and Mobile Interfaces", UC Berkeley EECS Seminar, September 2008

"Image Recognition Interfaces", ICSI-BEARS Conference, February 2009; Keynote Talk, ACM Intelligent User Interfaces Conference, February 2009

"Learning Representations for Visual Recognition", UC Berkeley EECS Seminar, May 2010, Bay Area Vision Meeting Feb 2011, KTH April 2011, MPI April 2011, IROS 2011, Bay Area Vision Meeting Sept. 2012

VI.   Students Supervised (Completed)

Masters (S.M, MIT.):

CURRICULUM VITAE OF TREVOR J. DARRELL

Morency, Louis-Philippe, "Stereo-based head post tracking using Iterative Closest Point and normal flow constraint," 2002

Checka, Neal, "Probabilistic framework for multi-modal multiple person tracking," 2002

Grauman, Grauman, L., "A statistical image-based model for visual hull reconstruction and 3D structure inference," 2003

Yeh, Pei-Hsiu (Tom), "IDeixis: image-based ideixis for recognizing locations," 2004

Christoudias, C., Mario, "Light field appearance manifolds," 2004

Saenko, Ekaterina - joint with Glass, James, "Articulatory features for robust speech recognition," 2004

Siracusa, Michael - joint with Fisher, John, W., "Statistical modeling and analysis of audio-visual association in speech," 2004

Ariadna Quattoni - joint with M. Collins, "Object Recognition with a Latent Conditional Random Field", 2005

Masters (M.Eng., MIT)

Smith-Michelson, Jared, "Design and Application of a head detection and tracking system", 2000

Villoria, John, A., "Optimizing clustering algorithms for computer vision," 2001

Rania, Kalaf Y., "Multi-person tracking using dynamic programming," 2001

Rangarajan, Vibav, S., "Interfacing speech recognition and vision-guided microphone array technologies," 2003

Bentley, Frank, H., "A widget-based architecture for perceptive presence," 2003

Ko, Theresa, H., "Untethered human motion recognition for a multi-model interface," 2003

Sundberg, Patrik, P., "Pose estimation using cascade trees," 2004

Ross, Benjamin, "Comparision of nearest neighbor methods," 2004

Goela, Naveen, "Matching and compressing sequences of visual hulls," 2004

Dunagan, Brian, "Tracking with constraints in a web of sensors," 2004

You, Shuang, "Fast pedestrian detection with efficient thermal features", 2005

Lee, John, "Efficient Object Recognition and Image Retrieval for Large-Scale Applications" *(won Johnson award for outstanding CS M.Eng. thesis)*

Ph.D (MIT).

CURRICULUM VITAE OF TREVOR J. DARRELL

Shakhnarovich, Gregory, "Learning Features for Visual Classification", Oct. 2005 [Assistant Professor, TTI-Chicago]

Rahimi, Ali, "Learning to Transform Time Series with a Few Examples", Oct. 2005 [Intel Research, Berkeley]

Wilson, Kevin, "Learning Uncertainty Models for Audiovisual Speech Source Localization in Real-World Environments", Aug 2006 [Research Scientist, Mitsubishi Electric Research Labs, Cambridge (MERL)]

Taycher, Leonid, "Statistical methods for dynamic visual processing", Aug 2006 [Google Boston]

Grauman, Kristen, "Matching sets of features for efficient retrieval and recognition", Aug. 2006 [Assistant Professor, CS, University of Texas, Austin]

Morency, Louis-Philippe, "Dialogue Context and Visual Gesture Recognition", Oct 2006 [Research Assistant Professor, University of Southern California ICT]

Wang, Sy Bor, "Detecting Communication Errors from visual cues during the system's conversational turn", Aug 2008. [Trimble Navigations, Silicon Valley]

Yeh, Tom, "Situated Mobile Media Search", May 2009. [Postdoc, UMD; Assistant Prof. UC Boulder]

Quattoni, Ariadna, joint with M. Collins, "Transfer Learning Algorithms for Image Classification", May 2009, [Postdoc, U. Barcelona]

Christoudas, Mario, "Co-training for Multimodal Gesture Recognition", June 2009. [Postdoc, MIT & EPFL]

Saenko, Kate, "Image Sense Disambiguation: A Multimodal Approach". Doctoral Thesis", August 2009 [Postdoc, MIT & Harvard; Assistant Prof., U. Mass.]

Ph.D (UCB).

Ashley Eden, "Finding Lost Children", December 2010 [Dreamworks]

Alex Shyr, "Incorporating Supervision in Visual Recognition and Segmentation", May 2011 [Start-up]

UC Berkeley Quals. Exam Committee:
    Ashley Eden (Advisor)
    Alex Shyr (Advisor)
    Daphne Bushbaum (external)
    Mary Knox (member)
    Jack Culpepper UCB (chair)
    Chunhui Gu UCB (chair)
    Michael Maire UCB (chair)
    Subransu Maji UCB (chair)

CURRICULUM VITAE OF TREVOR J. DARRELL

Lester Mackey (member)
Patrick Sundberg (chair)

Current Postdocs

Name	Dates of Appointment	PhD Granting Institution	Curr. Position
Lorenzo Riano	2012-present	University of Palermo	Postdoc
Daniel Goehring	2012-present	HU Berlin	Postdoc
Stefanie Jegelka	2012-present	University of Tübingen	Postdoc

Previous Postdocs

Name	Title	Current Employer	Current Position
Konrad Tollmar	Postdoctoral Lecturer	Lund University	Assoc. Prof.
David Demirdjian	Postdoctoral Researcher	Toyota Research	Research Sci.
Raquel Urtasun	Postdoctoral Researcher	TTI-C	Asst. Prof.
Mario Fritz	Postdoctoral Researcher	MPI	Junior Prof.
Mathieu Salsmann	Postdoctoral Researcher	TTI-C	Asst. Prof.
Mario Christoudias	Postdoctoral Researcher	EPFL	Postdoc
Brian Kulis	Postdoctoral Researcher	Ohio State University	Asst. Prof.
Kate Saenko	Postdoctoral Researcher	U. Mass.	Asst. Prof.

CONSULTING RECORD OF TREVOR J. DARRELL, Ph.D.

Runway Systems, Inc. [software development]	1995	1996
Perceptive Networks, Inc. [scientific advisory board]	2000	2001
Reputation Systems, Inc. [scientific advisory board]	2001	2002

Mintz, Levin PC
       client: Foto Fantasy, Inc. (vs Monde)
       [prepared reports; case settled favorably]
	2001	2001

Foley, Hoag, PC
       client: ESI, Inc. (vs Cognex)
       [assisted in prior art search]
	2002	2002

Monitor Ventures [scientific advisory board]	2002	2004
Verint, Inc. [scientific advisory board]	2004	2004
Stephanie Littell	2004	2004

Dewey, Ballantine, LLP
       topic: ALIVE system
       [assisted in prior art search]
	2004	2004

Wilmer, Hale, LLP
       client: Cytyc, Inc. (vs Tripath Imaging, Inc.)
       [prepared noninfringement and invalidity expert report;
       was deposed; participated in mock trial;
       case settled favorably]
	2004	2007

Puretech Systems, Inc. [scientific advisory board]	2006	2007

Quinn Emanuel, LLP, (SF Office)
       client: Bally Technologies (vs. ShuffleMaster and IGT)
       [prepared noninfringement and invalidity expert reports;
       prepared revised reports post-KSR case;
       deposed twice; case settled favorably]
	2006	2007

Kitware, Inc. [DARPA subcontract research]	2008	2009

Wilmer Hale, LLP
       client: Motorola
       [initial non-infringement and invalidity analysis; case
       settled favorably before being formally put under
       protective order.]
	2008	2008

Powell Gilbert, LLP (London office)	2010	2011
client: Nokia, Inc., (vs Apple)		
[prepared extensive background art analysis;		
case settled favorably before first report due]		
IQ Engines, Inc.	2010	present
[scientific advisory board]		
BotSquare, Inc. (Flutter.io)	2011	present
[scientific advisory board]		
Graymatics, Inc.	2011	present
[scientific advisory board]		
Robins, Kaplan, Miller & Ciresi LLP	2011	2011
client: ObjectVideo		
[advised on novelty of recently issued patent]		
Quinn Emanuel, LLP (New York Office)	2011	2012
client: HTC (vs Apple)		
[prior art search; retained as "backup" expert		
due to uncertainty regarding primary expert,		
but no reports written ultimately]		
Quinn Emanuel, LLP (Redwood City Office)	2012	2012
client: Samsung (vs Apple)		
[prepared noninfringement and invalidity reports		
for '891 and '002 patents; prepared for deposition;		
patents dismissed from suit by opposing party		
prior to deposition]		
Quinn Emanuel, LLP (New York Office)	2012	2012
client: Samsung (vs Apple)		
[assisted in collection of of prior art regarding		
invalidity and noninfringement in response to		
infringement accusation on '604 and '959 patents]		
Hunton and Williams, LLP	2012	2012
client: Motion Games (vs. Nintendo)		
[prior art search to assess validity and infringement]		
Kenyon & Kenyon LLP	2012	present
client: Sony Corp. (vs. HumanEyes Ltd)		
[preparation of materials regarding invalidity		
of asserted patent on stereo panorama technology		
for ITC matter; HumanEyes withdrew complaint		
from ITC; ongoing matter now in district court]		
Koozoo, Inc	2012	present
Scientific Advisory Board		
Fish & Richardson PC	2012	2012
[assisted with gathering of my prior art materials		
from "ALIVE" system relevant to their case involving		

Microsoft and US Patent 6,507,353]

Weil, Gotshal & Manges LLP	2012	present

[fact witness and assisted with gathering of my prior art materials
from "ALIVE" system relevant to their case involving
Microsoft vs Impulse Consulting]

Quinn Emanuel, LLP (Chicago Office)	2012	present

client: Motorola Mobility (vs Apple)
[retained as expert to prepare future noninfringement
and invalidity reports for '891 patent;
same patent as Samsung v. Apple matter]

Bristows, LLC (London Office)	2013	present

client: Phillips
[potential expert witness regarding infringement
of Phillips' gesture interface technology]

Dr. Homayoon "Kaz" Kazerooni

SUMMARY

This expert holds a Doctorate in Mechanical Engineering from MIT and is currently a Professor in the Mechanical Engineering Department at the University of California, Berkeley. He is the director of the Berkeley Robotics and Human Engineering Laboratory where he conducts research on Robotics, Mechatronics, Human Machine Systems, Control Sciences, Artificial Locomotion, Assist Devices, Power and Propulsion. He is the founder of Berkeley Bionics. Berkeley Bionics designs and manufactures lower extremity exoskeletons to augment human strength and endurance during locomotion. Lockheed Martin is currently marketing the Berkeley Bionics Products.

- Director of the Berkeley Robotics and Human Engineering Laboratory at UC, Berkeley.

- Founder, Chairman of the Board, and Chief Scientist, Ekso Bionics (www.eksobionics.com). Ekso Bionics has over 90 employees.

- Authored over 180 peer reviewed articles.

- Delivered over 90 plenary lectures and invited seminars in the U.S. and internationally.

- Developed a unique undergraduate required mechatronics design course for the mechanical engineering department at UC, Berkeley.

- Developed two graduate courses on Robotics and Mechatronics Design at Berkeley.

- Developed two graduate courses on Multivariable Control.

- Number of graduated PhDs: 25

- Average research funds per year: $1M

- Life-long inventor and designer of machines and systems; two systems are currently marketed world-wide by major material handling manufacturers and two systems are being developed to be marketed.

- Served in a variety of leadership roles in the robotics community.

- Served as associated editor of two journals: ASME J. of Dynamics Systems and Control and ASME/IEEE. Transaction on Mechatronics.

- Holder of over 15 issued patents (half of them are licensed) and prosecuted most of his patents.

- Consultant to Microsoft (X-Box), Honeywell, GM, Toyota, Dell, and Funai.

- Research as recognized among the top 50 best inventions of 2010, Time Magazine, 2010.

EXHIBIT A

- Research as recognized as the top second technology of the year (after iPAD), Wired Magazine, 2010.

- Research as recognized as the third most innovative technology of the year, CNN, 2010.

- Was recognized as one of the most innovative technology developers of the year, New York Times Magazine, 2004

- Was recognized as an innovator of one of the top ten technologies to watch, PC Magazine, July 2004.

- Recipient of the 1997 Discover Magazine Technological Innovation Award.

- Recipient of the outstanding ASME Young Investigator Award, American Society of Mechanical Engineers, November 1995.

- Chair, McKnight-Land Grant Professorship.

- Recipient, O. Hugo Schuck 1989 Best Paper Award, American Control Conference, received in May 1990.

- Recipient, Second Prize Winner of the 2006 "Create the Future" Design Contest. Sponsored by NASA. Featured on the cover page of the April 2006 NASA Tech Brief.

- 2006 Guinness Book of World Records (strongest load bearing exoskeleton).

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PROFESSIONAL EXPERIENCE

1991 to Present		University of California, Berkeley
	1995 to Present	Professor, Mechanical Engineering Department
	1991 to 1995	Associate Professor, Mechanical Engineering Department
2005 to Present		Ekso Bionics, Berkeley (www.berkeleybionics.com)
	2007 to Present	Chief Scientist
	2005-2007	Founder, Chairman, and CTO
1985 to 1991		University of Minnesota, Minneapolis
	1989 to 1991	Associate Professor, Mechanical Engineering Department
	1985 to 1989	Assistant Professor, Mechanical Engineering Department

EXHIBIT A

| 1980 to 1986 | Massachusetts Institute of Technology |
| | |

	1985 to 1996	Postdoctoral Fellow, Laboratory for Manufacturing and Productivity, Mechanical Engineering Department
	1980 to 1985	Research Assistant, Human-Machine Systems Laboratory, Mechanical Engineering Department

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EDUCATION

Ph.D., Massachusetts Institute of Technology, 1985   Design, Control Systems, Robotics, Human-Machine Systems, Manufacturing Machines

MS, Massachusetts Institute of Technology, 1982   Design, Control Systems, Robotics, Manufacturing Machines

MSME, University of Wisconsin at Madison, 1980   Design, Control Systems, Dynamics and Vibration

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PLENARY AND INVITED SEMINARS

1.   Plenary Speaker, IEEE/ASME International Conference on Advanced Intelligent Mechatronics, July 2012.

2.   Invited Museum Speaker, Bohemian Club, Bohemian Grove, California, June 2012.

3.   Invited Speaker, Symposium World Congress Orthopädie and Rehatechnik, June 2012, Leipzig, Germany.

4.   Invited Speaker, Arizona State University, April 13, 2012.

5.   Invited Speaker, Shanghai Jiao Tong University, March 22, 2012.

6.   Invited Speaker, Italian Institute of Technology, Genova, December 15, 2011.

7.   Plenary Speaker, National Assembly of American Orthotic and Prosthetic Association, Los Vegas, September 20, 2011.

8.   Invited Speaker, Santa Clara Valley Medical Center, Spinal Cord Injury Unit, January 8, 2011.

9.   Invited Speaker, Symposium on Emerging Topics in Control and Modeling: Biomedical Systems, University of Illinois at Urbana-Champaign, April 15, 2010.

10.   Invited Speaker, TU Delft, The Netherlands, September 29, 2010.

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EXHIBIT A

11.   Plenary Speaker, Beyond Brain Machine Interface: From Senses to Cognition, sponsored by Army Research Office and IEEE EMBS, Long Beach June, 21, 2010.

12.   Plenary Speaker, 2010 IEEE Conference on Cybernetics and Intelligent Systems (CIS), Singapore, June 28, 2010.

13.   Plenary Speaker, 2010 IEEE Conference on Robotics, Automation and Mechatronics (RAM), June 30, 2010.

14.   Invited Speaker, Robots Augmenting and Extending Humans, Institute of Future, Berkeley, November, 2010.

15.   Invited Speaker, International Symposium on Strong AI and Neo Robotics, Nagoya, October, 2009.

16.   Invited Speaker, Workshop on Neuromechanical Engineering, National Science Foundation, September 14, 2009.

17.   Invited Speaker, Yonsei University, Seoul, Korea, May 23, 2009.

18.   Invited Speaker, US Army Medical Research and Materiel Command, Fort Detrick, Frederick, MD April 15, 2009.

19.   Invited Speaker, Soldier Modernization Middle East, Abu Dhabi, November 23, 2008.

20.   Invited Speaker, Mitsubishi Electric Research Laboratory, Cambridge, MA, October 23, 2008.

21.   Plenary Speaker, 2008 ASME Dynamic Systems and Control Conference, Ann Arbor, MI, October 22, 2008.

22.   Invited Speaker, General Motors Technology Center, Warren, MI, October 21, 2008.

23.   Invited Speaker, Seoul National University, Seoul, Korea, October, 1, 2008.

24.   Invited Speaker, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea, September 30, 2008.

25.   Invited Speaker, Daewoo Shipbuilding & Marine Engineering, (DSME), Geoje Island, Korea, September 29, 2008.

26.   Keynote Speaker, 3rd Annual Military Armor Protection Conference, The Institute for Defense & Government Advancement (IDGA), May 19-22, 2008, Alexandria VA.

27.   Invited Speaker, BAE Systems Headquarter, December 2007, Washington DC.

28.   Invited Speaker, Northrop Grumman, December 2007, Washington DC.

29.   Invited Speaker, No Barriers Festival, Squaw Valley, USA, August 2007.

EXHIBIT A

30.   Keynote Speaker, 10th International Conference on Rehabilitation Robotics, Noordwijk, the Netherlands, June, 2007.

31.   Invited Speaker, Computer Science Department, Sonoma State University, March 2007.

32.   Invited Speaker, Toyota R&D Center, Nagoya, Japan, March 2007.

33.   Invited Seminar Speaker, The University of Tokyo, Tokyo, Japan, March 2007.

34.   Invited Speaker, Neurology Department, School of Medicine, Stanford University December 13, 2006.

35.   Invited Speaker, Orthotic and Prosthetic Centers, School of Medicine, University of California at San Francisco, December 4, 2006.

36.   Invited Speaker, Mechanical Engineering Department, University of Michigan, December 2006.

37.   Invited Speaker, US Department of Agriculture, San Dimas Technology & Development Center, November 2006.

38.   Invited Speaker, Össur Orthopedics, Iceland, November, 2006.

39.   Keynote Speaker, Inaugural Richard K. Olney Lecture, National meeting of American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM), Washington DC, October 2006.

40.   Keynote Speaker, The American Society of Biomechanics Meeting, Blacksburg, Virginia, September, 2006.

41.   Keynote Speaker, The 2nd IEEE/ASME International Conference on Mechatronics and Embedded Systems and Applications, Beijing, China, August 2006.

42.   Invited Speaker, General Motors Technology Center, New Trends in Assembly Automation, June 7, 2006.

43.   Invited Speaker, UCLA Mechanical Engineering Department, June 12, 2006.

44.   Invited speaker, US Marine Corp Lab, Quantico, February 22, 2006 (General Hagee and his staff).

45.   Keynote speaker, Experimental Biology, Sponsored by American Association of Anatomists, San Francisco, April 1-5, 2006.

46.   Invited Speaker, PEO Solider, Fort Belvoir, September 30, 2005 (General Moran and his staff).

47.   Invited Speaker, Natick Solider System Center, Biomechanics Group, August 22, 2005.

48.   Invited Speaker, Headquarter of United States Special Operations Command, MacDill AFB, Tampa Florida, September 30, 2005 (General Brown's staff).

EXHIBIT A

49.   Keynote Speaker, American Orthotic & Prosthetic Association (AOPA), National Assembly, Las Vegas, September 25-28, 2005.

50.   Keynote speaker, US-Japan Workshop on Sensors, Smart Structures, and Mechatronic Systems, Tokyo, November11-14, 2005.

51.   Invited speaker, Army Research Laboratory, Human Research Engineering Directorate, July 19 th 2005.

52.   Invited Speaker, 12th International Symposium of Robotics Research (ISRR 2005), October 12th-15th, 2005 San Francisco, CA , USA.

53.   Plenary Speaker, The 5th International Conference on Field and Service Robotics, July 29-31 2005, Port Douglas Australia.

54.   Invited speaker, Information Science and Technology (ISAT) Workshop, Title: "Embedded Humans", Sponsored by DARPA, Palo Alto, California, June 30, 2005.

55.   Invited Speaker, VA Patient Safety Center, Tampa, January 14, 2005.

56.   Invited Colloquium Speaker, University of Illinois at Chicago, December 3, 2004.

57.   Invited Speaker, Northwestern University, Rehabilitation Engineering Research Program and Prosthetics Research Laboratory, December 4, 2004.

58.   Seminar Speaker, Cleveland Louis Stokes VA Medical Center, Cleveland, October 19, 2004.

59.   Seminar Guest speaker, Educator-Industry Summit, Invited by National Fluid Power Association, Indianapolis, October 2003.

60.   Guest Speaker, Workshop on Robotics and Human Performance Augmentation, Natick Soldier Center, Natick, MA, June 24, 2003.

61.   Seminar Guest speaker, Johns Hopkins University, April 2003.

62.   Seminar Guest Speaker, invited by the ergonomics team at U.S. Army Soldier Center, Natick, MA, March 26, 2003.

63.   Seminar Guest speaker, University of Michigan, January 2003.

64.   Guest Speaker, "Exoskeleton Operational Concepts Workshop", Marine Corps Laboratories in Quantico, Virginia, December 3rd, 2002.

65.   Guest speaker, Future Concept Working Group, Tampa, Florida, Organized by Special Operation Forces, October 2002.

66.   Guest speaker, Carnegie Mellon University, October 2000.

67.   Guest Speaker, Workshop on Intelligent Assist Devices, IEEE Conference on Robotics and Automation, Albuquerque May 1999, Detroit.

EXHIBIT A

68.   Guest Speaker, NSF Workshop on USA-South Africa Meeting on Collaboration on Manufacturing Research and Education, Lincoln, Nebraska, May 22, 1998.

69.   Guest Speaker, Workshop on Human-Centered Robotics, IEEE Conference on Robotics and Automation, April 1997.

70.   Guest Speaker, NSF Workshop on Healthcare Robotics, May 1997, MIT, Massachusetts.

71.   Guest Speaker, University of Wisconsin, Madison, Wisconsin, March 1997.

72.   Guest Speaker, University of California, Santa Barbara, California, March 1996.

73.   Guest Speaker, University of Washington, Seattle, Washington, April 1995.

74.   Guest Speaker, University of California at Davis, Davis, California, February 1995.

75.   Guest Speaker, University of California at Irvine, Irvine, California, January 1995.

76.   Guest Speaker, Northwestern University, Evanston, Illinois, March 1995.

77.   Guest Speaker, Battelle Pacific Northwest Laboratories, Richmond, Washington, January 1994.

78.   Guest Speaker, Orion Technologies, Albuquerque, New Mexico, June 1994.

79.   Plenary Speaker, 2nd IEEE International Workshop on Robot and Human Communication, November 1993, Tokyo.

80.   Guest Speaker, McGill University, Montreal, Canada, November 1990.

81.   Guest Speaker, IFAC Conference on Low Cost Automation, Milan, Italy, November 1989.

82.   Guest Speaker, National Science Foundation Conference on Intelligent Control to Aid Persons with Cognitive and Physical Disabilities, Washington, D. C., February 1989.

83.   Guest Speaker, University of Toronto, Toronto, Canada, October 1988.

84.   Guest Speaker, Sandia National Laboratories, Albuquerque, New Mexico, December 1987.

85.   Guest Speaker, National Bureau of Standards, Washington, D. C., November 1987.

86.   Guest Speaker, ASME Robotic Deburring Conference, Cincinnati, Ohio, October 1986.

EXHIBIT A

AWARDS

1.   Research as recognized among the 50 best inventions of 2010, Time Magazine, 2010.

2.   Research as recognized as the top second technology of the year (after iPad), Wired Magazine, 2010.

3.   Research as recognized as the third most innovative technology of the year, CNN, 2010.

4.   Second Prize Winner of the 2006 "Create the Future" Design Contest. Sponsored by NASA. Featured on the cover page of the April 2006 NASA Tech Brief.

5.   Top technology to watch, New York Times Magazine, December 2004.

6.   Top technology to watch, PC Magazine Magazine, April 2004.

7.   Recipient, Outstanding ASME Investigator Award, American Society of Mechanical Engineers, November 1995.

8.   Recipient, O. Hugo Schuck 1989 Best Paper Award, American Control Conference, received in May 1990.

9.   1997 Discover Magazine Technological Innovation Award, Computer and Hardware category.

10.   Chair, McKnight-Land Grant Professorship, 1991.

11.   Recipient, Certificate of Appreciation, Robotics International of SME, October 1986.

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PROFESSIONAL AFFILIATIONS & SERVICES

1.   Conference Program Chair, Third International Workshop on Advanced Motion Control, March 1994, Berkeley, California.

2.   Conference Program Chair, Recent Advances in Mechatronics, August 95, Istanbul, Turkey.

3.   Associate Editor, ASME/IEEE Transactions on Mechatronics, August 1995 through August 1997.

4.   Associate Editor, ASME Journal of Dynamic Systems Measurements and Control, June 1990 through June 1994.

5.   Chairman, Robotics Panel, ASME Dynamic Systems and Control Division, June 1990 through December 1993.

6.   Member of the Technical Program Committee, IEEE Conference on Robotics and Automation, 1989, 1990.

7.   Session Chairman and Organizer, American Control Conference, 1987 to 1991

EXHIBIT A

8.   Session Chairman and Organizer, IEEE Conference on Robotics and Automation, 1987, 1988, 1989, 1990, 1991.

9.   Session Chairman and Organizer, ASME Winter Annual Meeting, 1987 to 1993.

10.   Member of the Minnesota Mentor Connection, supervising gifted high school students.

11.   Member of more than twenty program committees for various ASME and IEEE conferences and workshop since 1985.

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SELECTED PUBLISHED PATENTS

8,070,700	2011	Lower extremity enhancer
8,057,410	2011	Semi-powered lower extremity exoskeleton
7,947,004	2011	Lower extremity enhancer
7,883,546	2011	Power generating leg
7,810,790	2010	Vehicle with on-board cargo handling system
7,628,766	2009	Lower extremity enhancer
7,334,776	2008	Apparatus and method for vehicle on-board cargo handling system
6,886,812	2005	Human power amplifier for lifting load with slack prevention apparatus
6,681,638	2004	Device and Method for Wireless Lifting Assist Device
2,233,383 (Canadian)	2003	Pneumatic Human Power Amplifier Module
6,622,990	2003	Human power amplifier for lifting load with slack prevention apparatus
6,554,252	2003	Device and Method for Wireless Lifting Assist Device
6,554,337	2003	Mechanical Grapple for Grabbing and Holding Sacks and Bags
6,474,711	2002	Mechanical Grapple for Manipulating Objects
6,422,329	2002	Human Assisted Walking Robot
6,386,513	2002	Human Power Amplifier for Lifting Load Including Apparatus for Preventing Slack in Lifting Cable
6,299,139	2001	Human Power Amplifier for Vertical Maneuvers
5,915,673	1999	Pneumatic Human Power Amplifier Module
5,865,426	1999	Human Power Amplifier for Vertical Maneuvers

EXHIBIT A

4,884,941   1989   Active Compliant End-Effector with Force, Angular Position, and
                            Angular Velocity Sensing

4,775,289   1988   Statically Balanced Direct-Drive Robot Arm

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SELECTED PRINT MEDIA

This expert and his laboratory were featured in hundreds of magazines and newspapers around the world. A sample of these include USA Today, Der Spiegel, Jane's Defense Weekly, Popular Science, PC Magazine (Ranked as the #1 technology to watch), MIT Technology Review, Newsweek, LA Times, Chicago Sun Times, Houston Chronicle, San Francisco Chronicle, Vancouver Sun, Albuquerque Tribune, and San Jose Mercury News. A more extensive list can be found at http://bleex.me.berkeley.edu

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SELECTED BROADCAST MEDIA.

1.   ABC's Sunday Morning, on May 15th, 2011

2.   ABC's Good Morning America on March 11th, 2004

3.   CBS News March 10th, 2004

4.   MSNBC Today's Show, March 10th, 2004

5.   CNN News, March 10th, 2004

6.   BBC Radio London, March 12th, 2004

7.   Science Today Radio Program, UC Radio Program broadcast by CBS network, May 4th, 2004

8.   SBS TV, South Korea

9.   EMP, Inc. (franchise for Warner Bros.)

10.   Discovery Channel Canada

11.   Discovery Channel USA

12.   Tech TV

EXHIBIT A

SELECTED LITIGATION SUPPORT EXPERIENCE

Case: Overland vs. BDT

Project: Researched matter, wrote reports, deposed and appeared in the court

Date closed: September 2011

Atty/Firm: DLA Piper, Palo Alto, CA

Case: Pregis Corporation vs. John J. Doll, United States Patent and Trademark Office and Free-Flow Packaging International

Project: Researched matter, wrote reports, deposed and appeared in the court

Date closed: February 2010

Atty/Firm: Banner & Witcoff, Washington, DC

Case: Funai Electric Company vs. Daewoo Electronics Corporation

Project: Researched matter, wrote reports, deposed and appeared in the court

Date closed: Morgan Lewis, San Francisco, California

Atty/Firm: January 2008

Case: HP vs. Gateway

Project: Researched matter and wrote reports

Date closed: March 2006

Atty/Firm: Dewey Ballantine LLP, Palo Alto, California

Case: Ditzik vs. Viewsonic, DELL, NEC-Mitsubishi, Samsung, Planar, and CompUSA

Project: Researched matter, wrote report and was deposed

Date closed: November 2005

Atty/Firm: Brooks Kushman, Southfield, Michigan

EXHIBIT A

Case: Immersion vs. Microsoft

Project: Researched matter and wrote report

Date closed: August 2003

Atty/Firm: Fish and Richardson, San Diego, California

Case: State of Maryland vs. SEFAC

Project: Researched matter, wrote report and was deposed

Date closed: June 2003

Atty/Firm: Attorney General; State of Maryland

Case: Free Flow Packaging International vs. Pactiv Corporation

Project: Researched matter

Date closed: January 2004

Atty/Firm: Gray Cary Ware & Freidenrich LLP, Palo Alto, California

Case: Ramirez vs. Earth and Ocean Sports, Inc.

Project: Researched matter

Atty/Firm: Law Offices of Edward Chatoian, Fresno, California

Case: Soto vs. Byrne Manufacturing

Project: Researched matter, wrote report, was deposed and testified at court.

Date closed: 2001

Atty/Firm: DeWitt Algorri & Algorri, Pasadena, California

Case: Bossick vs. Toyota

Project: Researched matter, wrote report, was deposed and testified at court.

EXHIBIT A

Date closed: 2001

Atty/Firm: DeWitt Algorri & Algorri, Pasadena, California

Case: Padway vs. San Francisco Municipal Railway

Project: Researched matter, wrote report and was deposed.

Date closed: 2000

Atty/Firm: Law Offices of Larry Padway, Oakland, California

Case: Lizatovic vs. Royal Caribbean Cruises, Ltd

Project: Researched matter.

Date closed: January 2004

Atty/Firm: The Huggett Law Firm

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REFEREED JOURNAL ARTICLES

1.   Kazerooni, H., Houpt, P. K., "On The Loop Transfer Recovery," International Journal of Control, Vol. 43, No. 3, March 1986.

2.   Kazerooni, H., Sheridan, T. B., and Houpt, P. K., "Fundamentals of Robust Compliant Motion for Manipulators," IEEE Journal of Robotics and Automation, Vol. 2, No. 2, June 1986.

3.   Kazerooni, H., Houpt, P. K., Sheridan, and T. B., "A Design Method for Robust Compliant Motion of Manipulators," IEEE Journal of Robotics and Automation, Vol. 2, No. 2, June 1986.

4.   Kazerooni, H., Baush, J. J., Kramer, B., "An Approach to Automated Deburring by Robot Manipulators," ASME Journal of Dynamic Systems, Measurements, and Control, Vol. 108, No. 4, December 1986.

5.   Kazerooni, H., "Automated Robotic Deburring Using Impedance Control," IEEE Control System Magazine, Vol. 8, No. 1, February 1988.

EXHIBIT A

6. Kazerooni, H., "Direct-Drive Active Compliant End-Effector (Active RCC)," IEEE Journal of Robotics and Automation, Vol. 4, No. 3, June 1988.

7. Kazerooni, H., "Loop Shaping Design Related to LQG/LTR for SISO Minimum Phase Plants," International Journal of Control, Vol. 48, No. 1, July 1988.

8. Kazerooni, H., "Robotic Deburring of Parts with Unknown Geometry," SME Journal of Manufacturing Systems, Vol. 7, No. 4, November 1988.

9. Kazerooni, H., "Compliant Motion Control for Robot Manipulators," International Journal of Control, Vol. 48, No. 5, December 1988.

10. Kazerooni, H., "Design and Analysis of the Statically Balanced Direct Drive Manipulator," IEEE Control System Magazine, Vol. 9, No. 2, February 1989.

11. Kazerooni, H., "Statically Balanced Direct Drive Robot Manipulator," Robotica, Vol. 7, No. 2, April 1989.

12. Kazerooni, H., "On the Contact Instability of Robots When Constrained by Rigid Environments," IEEE Transactions on Automatic Control, Vol. 35, No. 6, June 1990.

13. Kazerooni, H., "Dynamic and Control Analysis of Two Cooperating Robots," Robotica, Vol. 7, No. 3, July 1989.

14. Kazerooni, H., "On the Robot Compliant Motion Control," ASME Journal of Dynamic Systems, Measurements, and Control, Vol. 111, No. 3, September 1989.

15. Kazerooni, H., "Human-Robot Interaction via the Transfer of Power and Information Signals," IEEE Transactions on Systems and Cybernetics, Vol. 20, No. 2, March 1990.

16. Kazerooni, H., Waibel, B. J., Kim, S., "Theory and Experiments on Robot Compliant Motion Control," ASME Journal of Dynamic Systems, Measurements, and Control, Vol. 112, No. 3, September 1990.

17. Kazerooni, H., "Theory and Experiments on Tracking of the Repetitive Signals via the LQG/LTR Formalism," International Journal of Control, Vol. 51, No 3, March 1990.

18. Kazerooni, H., and Kim, S., "On the Design of Direct Drive Robots," ASME Journal of Engineering for Industry, Vol. 112, No. 2, May 1990.

19. Kazerooni, H., Her, M. G., "Automated Robotic Deburring Using Compliance Control," ASME Journal of Dynamic Systems, Measurements, and Control, Vol. 111, No. 1, March 1991.

20. Kazerooni, H., Bouklas, K. G., Gou, J., "Compliance Control of Redundant Manipulators," ASME Journal of Dynamic Systems, Measurements, and Control, Vol. 112, No. 4, December 1990.

21. Kazerooni, H., "Design and Analysis of the Statically Balanced Direct Drive Robot Manipulators," Journal of Robotics and Computer-Integrated Manufacturing, Vol. 6, No. 4, 1990.

EXHIBIT A

22.   Kazerooni, H., Waibel, B. J., "On the Stability of the Constrained Robotic Maneuvers in the Presence of Modeling Uncertainties," IEEE Transactions on Robotics and Automation, Vol. 7 No. 1. February 1991.

23.   Kazerooni, H., and Mahoney, S. L., "Dynamics and Control of Robotic Systems Worn By Humans," ASME Journal of Dynamic Systems, Measurements, and Control, Vol. 113, No. 3, pp. 379-387, September 1991.

24.   Kazerooni, H., and Guo, J., "Human Extenders," ASME Journal of Dynamic Systems, Measurements, and Control, Vol. 115, No. 2(B), June 1993, pp 281-289.

25.   Kazerooni, H., Tsay, T. I., Hollerbach, K., "A Controller Design Framework for Telerobotic Systems," IEEE Transactions on Control Systems Technology, Vol. 1, No. 1, March 1993, pp. 50-62.

26.   Kazerooni, H., Her, M. G., "The Dynamics and Control of a Haptic Interface Device," IEEE Transactions on Robotics and Automation, Vol. 10, No. 4, August 1994, pp 453, 464.

27.   Kazerooni, H., and Snyder, T. J., "A Case Study on Dynamics of Haptic Devices: Human Induced Instability in Powered Hand Controllers," AIAA Journal of Guidance, Control, and Dynamics, Vol. 18, No. 1, 1995, pp. 108-113.

28.   Kazerooni, H., "Dynamics and Control of Instrumented Harmonic Drives," ASME Journal of Dynamic Systems, Measurements, and Control, Vol. 117, No. 1, March 1995, pp.15-19.

29.   Kazerooni, H., "The extender technology at the University of California, Berkeley," Journal of the Society of Instrument and Control Engineers in Japan, Vol. 34, 1995, pp. 291-298.

30.   Pannu, S., Kazerooni, H. Becker, G., Packard, A., "□-Synthesis Control for a Walking Robot," I EEE Control Systems, Vol. 16 No. 1, February 96, pp. 20-25.

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Personal Statement

Throughout my career, I have progressed through the technical ranks as a junior programmer, senior programmer, technical lead, chief architect, director of engineering, and founder and CEO of my own company that created wireless handheld point-of-sale systems for the restaurant industry.   For five years while in graduate school, I taught undergraduate Computer Science courses at California State University, Los Angeles, earning the Professor of the Year award for the CS department in 2002. After receiving my Ph.D. in Computer Science in 2007 from the University of Southern California, I became an Assistant Professor in the Computer Systems Engineering program at the University of Alaska Anchorage from August 2007-June 2011. I was promoted to Associate Professor and tenured at UAA beginning in the 2011/2012 academic year. From February 2011-November 2011, I was the Chair of the Bachelor of Science in Engineering department at UAA, which offered degrees in Computer, Electrical, and Mechanical Engineering with 13 tenure-track and 5 adjunct faculty.

While at UAA, I have authored and achieved University approval for introductory programming, object-oriented programming, systems administration, digital circuits, computer networking, operating systems, FPGA, and VLSI classes for engineering students focused on applied applications in various engineering disciplines. I also was the Program Chair for the Computer Systems Engineering department in preparing ABET documents to ultimately achieve full accreditation in 2008, 2010, and again in 2012. In the 2012/2013 academic year, the Computer Science and Computer Systems Engineering programs were merged, and I have been involved in streamlining the curricula for both programs to reduce duplication and provide an improved education for students in both programs.

I have also been successful in securing over $930,000 as a PI or Co-PI in research funding since 2008 for projects concerning Intelligent Transportation Systems (ITS) networks and architectures. Single architectures are not always suitable for an application, so I focus on combining different network and system architectures to suit the needs of a specific application. In a mobile environment, combining centralized and distributed architectures into a single system allow wireless devices to behave as thin and thick clients. With ITS architectures, V2V (Vehicle-to-Vehicle), V2I (Vehicle-to-Infrastructure), and the hybrid V2V2I (Vehicle-to-Vehicle-to-Infrastructure) architectures provide a means for vehicles to transmit information to a central repository and other vehicles. One of the grants I have received focuses on installing tracking devices in 85 vehicles that communicate over the cellular network speed, location, and additional information available through a vehicle's on-board diagnostic (OBD) port. This data is combined with the data retrieved from other means, such as inductor loops, video cameras, driver reports, air tubes, and other vehicles equipped with GPS transmitters and receivers. From this data, a map of the roadways is provided showing the speed of select vehicles, average speed on arterial roadways, locations of congestion, fastest paths, and other information as requested by the stakeholders.

In addition, I have been organizing and leading the UAA School of Engineering K12 Summer Camps since 2010. Starting with around 100 students in 2010, the camps have grown to over 800 interested students in 2013. Initially funded by the School of Engineering through outreach activities, BP has funded the summer camps in 2011, 2012, and 2013 at $80k each year. The camps are provided at no cost to the attendees, and topics include robotics, alternative energy, rapid prototyping, GPS tracking, FM radio setup, and structure destruction.

Within the IEEE, I have been quite active, being the General Chair for the IEEE 69th Vehicular Technology Conference in fall 2009 in Anchorage, the IEEE 15th Intelligent Transportation Systems Conference in fall 2012 in Anchorage, and the IEEE 77th Vehicular Technology Conference in fall 2013 in Las Vegas. I have also been a Program Co-Chair and Technical Program Chair for the IEEE 73rd Vehicular Technology Conference in fall 2011. I was on the IEEE Intelligent Transportation Systems Society Board of Governors for the term from January 2009-December 2011 and was elected as Vice President for Administrative Activities in the same society from January 2011-December 2012. I am also on the IEEE Vehicular Technology Society Board of Governors for the term from September 2011-December 2013. Starting in October 2011, I have been the Editor-in-Chief of the IEEE ITS Magazine. Within the ITSS, I am an Associate Editor for the IEEE Transactions on Intelligent Transportation Systems. In 2010, I was the treasurer for the Alaska section of the IEEE and was the chair of the section from January 2011-December 2011. During my time as chair of the IEEE Alaska Section, the section won the 2011 Outstanding Section Award for the Region 6 Northwest Area. In addition to being a member of the

Intelligent Transportation Society of Alaska, I was also the president from January 2010-December 2011. I am also actively involved in additional upcoming conferences, being the program co-chair, publicity co-chair, local arrangements chair, and volunteer coordinator chair. I have been a member of the technical program committee, session chair, special session organizers, and reviewer for many conferences. Within ACM, I am a member and the faculty advisor for the student chapter of the ACM at the University of Alaska Anchorage.

Research Statement

My research focuses on the software and network architectures and algorithms used in mobile and wireless communication. Single architectures are not always suitable for an application, so I also focus on combining architectures to suit the needs of a specific application. The application area I use in my research is Intelligent Transportation Systems (ITS). Pure Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) architectures have been proposed, and V2I communication is currently used by many ITS applications (such as automated toll booths, vehicle tracking, etc.). As more vehicles begin to use V2I communication for transmitting data to a central repository, different architectures or much creative utilization of bandwidth will be necessary. Hybrid architectures (such as the Vehicle-to-Vehicle-to-Infrastructure (V2V2I)) will be needed so that the data transmitted will not overwhelm the central systems.

In addition to the architecture, efficient algorithms are also necessary for analyzing the large amount of data that will be received. The data may be granular enough to determine the location of an accident or object in the roadway, the average speed on many different arterial roads for determining fastest paths, or for determining the impact of construction or a new building to the current traffic congestion, among many other potential applications. Making this data available in an efficient manner and performing real-time calculations on this data to produce usable results have been difficult challenges. The algorithms used need to be application-specific so they can be optimized for the utmost in efficiency.

One of the grants I have received is from the Alaska University Transportation Center, in conjunction with the Alaska Department of Transportation. The project has installed tracking devices in 65 vehicles in the city of Anchorage. The tracking devices are connected through the vehicle's on-board diagnostic (OBD) port, and the speed, location, and additional data from the vehicle's computer system are transmitted through the cellular network to a central server. This data is combined with the data retrieved from other means, such as inductor loops, video cameras, driver reports, air tubes, and other vehicles equipped with GPS transmitters and receivers. From this data, a map of the roadways is provided showing the speed of select vehicles, average speed on arterial roadways, locations of congestion, fastest paths, and other information as requested by the stakeholders. Some information, such as fastest paths or locations of congestion, are also returned to drivers as requested via text messages. With the devices strategically placed in 75 vehicles that traverse the main arterials of the city on a daily basis, the results have been quite promising. Probe vehicles are proving to be a very effective way of determining flow of traffic on main arterials, coupled with additional vehicle data from other means. The data is fed into a real-time simulator I created called FreeSim (http://www.freewaysimulator.com), which now utilizes Google Maps for its display. The data is also exposed over the Internet for other researchers to exploit and test their own algorithms given a live set of distributed data gathered via a V2I architecture at http://www.alaskatraffic.net.

Over the next few years, my research will continue to focus on architectures for large-scale systems and developing criteria by which different architectures can be evaluated. Various architectural methodologies will be employed to determine a priori advantages for a purely distributed versus a purely centralized versus a hybrid architecture. In addition, I expect to develop specialized algorithms that optimize the performance of each of these architectures, given the specific application. My approach to a posteriori analysis relies upon the development of simulation models that realize the underlying architecture and are calibrated by whatever actual data is available, as well as what data is required by the end-user applications. Typical questions I expect to address are bandwidth requirements, accuracy of the data representation, historical tracking of data, processing power required by each device, and reliability under failure modes, among other factors. Within Intelligent Transportation Systems, I will work on determining factors that are involved in a traffic incident (such as human, vehicular, and environmental factors) and assigning probabilities of an incident to different situations, attempting to predict not only traffic but the likelihood of an incident. Continuing to model traffic in real-time and answer questions posed by transportation engineers will also be an emphasis of my future research. Collaborating with faculty in other departments will prove useful in this field as well, such as determining vehicle slippage, location of potholes, and engine efficiency by installing additional sensors on vehicles. The potential number of applications is endless, and researchers from different departments will add invaluably to the project.

Teaching Statement

While working on my Ph.D. in Computer Science at the University of Southern California, I was teaching as an Adjunct Professor in the Computer Science department at California State University, Los Angeles. From 2002-2007, I taught many undergraduate Computer Science courses, including Introduction to Web Site Development (CS120), Introduction to SQL and Databases (CS122), Introduction to Programming (CS201), Introduction to Object-Oriented Programming (CS202), Programming with Data Structures (CS203), C Programming (CS242), Computer Ethics in the Information Age (CS301), Algorithm Design and Analysis (CS312), Web and Internet Programming (CS320), Introduction to Automata Theory (CS386), Java for C++ Programmers (CS454 – Special Topics), Enterprise Architecture (CS454 – Special Topics, now CS420), Compilers (CS488), and Undergraduate Computer Science Wrap-Up Course (CS490). I also led a team of students in a directed study (CS499) to create a project to be used as the basis for the undergraduate compiler course. In 2002, I was voted Professor of the Year by the students in the Computer Science department, which was the first time ever a part-time lecturer had received that award. While there, I also authored the CS420 course on enterprise architecture, covering distributed computing, RMI, CORBA, Web Services, and MVC architectures (including Spring and Struts).

After completing my Ph.D. in spring 2007, I accepted a position as an Assistant Professor in the Computer Systems Engineering department at the University of Alaska Anchorage, with a workload of teaching three classes a semester (60%-20%-20% teaching-research-service workload). As the department was only three years old, I was given the ability to author many courses, including Introduction to Computer Systems (CSE 102), Introduction to C Programming for Engineers (CSE 205/294A), Object-Oriented C++ Programming for Engineers (CSE 215/294B), Assembly Language Programming (CSE 225), Operating Systems Engineering (CSE 335), Digital Circuits Design (CSE 342), Computer Networking for Engineers (CSE 355), Engineering Systems Administration (CSE 394B), Engineering of Computer Systems – Capstone Course (CSE438), VLSI Circuit Design (CSE 442), and Network Security (CSE 465). I have taught all of the above courses during my time at UAA, as well as a circuits class entitled Elements of Electrical Engineering (ES 309). I have also been the advisor for independent study courses (CSE 497) our undergraduate senior design course (CSE 438), in which groups of students develop a project from conception through implementation that encompasses the knowledge they have gained during the course of their degree. I have also been actively involved in forming the curriculum based on ABET criteria, and in 2008, 2010, and 2012, I led the Computer Systems Engineering department through successful accreditation. I was promoted to Associate Professor with tenure in summer 2011.

As for my student evaluations for the past 11 years of teaching, on a scale of 1 to 5, with 1 being the best, my average score for teaching ability is 1.62 from 1215 students in 66 classes. While at Cal State LA, the scores from the student evaluations were the top in the Computer Science department. I like to mix traditional and non-traditional teaching methods to provide students with a unique educational experience. Powerpoint slides provide a basis for many of my lectures, but I incorporate much student participation, discussions on the whiteboard, programming with an overhead projector, and diverting from the lecture notes to emphasize the topics of interest to the students. I believe that the most exciting projects for students are the ones in which they have interest, so I allow students to provide input for the projects, and in most classes I have a final project that is decided by the students (with my approval). I have had much positive feedback from that approach, as the students have chosen projects based on their own interests.

I have also had experience creating course material and curricula for many traditional and online universities. The material has included Powerpoint presentations, lecture notes for instructors, assignments, exams, multimedia presentations, and interactive lab assignments. I have also taught online classes with the American Public University System since 2009, which included developing course material and facilitating the instruction in the class. Those classes revolve around discussion boards, assignments, exams, and email. Students have a textbook and presentations that they read on their own, and then they must post to a discussion board each week, complete an assignment, and take a quiz. A lot of interaction occurs among the students, and the feedback provided by me is instrumental to the success of the online education. Without the in-person interaction that takes place in traditional brick and mortar universities, online education needs to have an open line of communication between the student and the instructor, regardless of the medium. One improvement that I think should be added to many online courses is having recorded presentations from an instructor rather than merely requiring the students to read and learn on their own. This would make the course more similar to distance education rather than online education, especially if frequent interaction with the instructor was available.

I believe that education needs to occur inside and outside of the classroom. The interaction with students during office hours and discussions after class all lead to a rich understanding of material related to the class as well as unrelated material. Some of the best student interaction I have had occurred outside of the classroom, typically during office hours or in the lab. Just as technology needs to be adapted to changing conditions, I believe that the

traditional teaching paradigm should be adjusted based on the class and effectiveness of different methods of information dissemination. The goal of teaching is for students to learn, and if that occurs without formal lectures using slides, I think an instructor is still successful. I post all of my notes, slides, assignments, and syllabi online, and you can see more about my courses taught at UAA (http://jmiller.uaa.alaska.edu) and Cal State LA (http://www.sigmacoding.com) under Teaching.

Although I enjoy teaching a wide array of courses, I feel most comfortable in teaching courses involved in networking, algorithms, general programming, compilers, software systems and engineering, and databases. I feel I am the most knowledgeable in those areas because of my research focus being in those fields as well as my professional experience, though I have a genuine passion for teaching, and I enjoy the interaction with students regardless of the course (as can be seen by the wide array of courses I have taught). Although I enjoy the research I have done, I am very interested in teaching and passing along the knowledge I have gained to future generations of computer scientists and engineers.

Education

- **Ph.D. in Computer Science, May 2007**
  University of Southern California
    - Successfully defended dissertation on April 27, 2007, with topic "Algorithms and Data Structures for the Real-Time Processing of Traffic Data" under the advisement of Professor Ellis Horowitz, Professor Petros Ioannou, and Professor Ming-Deh Huang

- **Master of Science in Computer Science, December 2002**
  University of Southern California
    - Emphasis in Systems and Software Engineering

- **Bachelor of Science in Computer Engineering and Computer Science, May 2002**
  University of Southern California
    - Graduated cum laude

Professional Affiliations

- IEEE – member since 2002
- ACM – member since 2002
- Intelligent Transportation Society of Alaska – member since June 2009
- IEEE Communications Society – member since 2002
- IEEE Computer Society – member since 2002
- IEEE Intelligent Transportation Systems Society – member since 2006
- IEEE Vehicular Technology Society – member since 2009
- IEEE Intelligent Transportation Systems Society Board of Governors – January 2009-December 2012
- IEEE Intelligent Transportation Systems Society VP Admin Activities – January 2011-December 2012
- IEEE Intelligent Transportation Systems Society Best Ph.D. Dissertation Committee – 2011, 2012, 2013
- IEEE Vehicular Technology Society Board of Governors – September 2011-December 2013
- IEEE Vehicular Technology Society Conference Committee – January 2011-December 2013
- Intelligent Transportation Society of Alaska President – January 2010-December 2011
- IEEE Alaska Section Chair – January 2011-December 2011
- IEEE Alaska Section Treasurer – January 2010-December 2010
- IEEE Region 6 Northwest Area Awards Chair – January 2012-December 2013
- IEEE-USA's Career and Workforce Policy Committee – January 2011-December 2013
- IEEE-USA's Committee on Transportation and Aerospace Policy – April 2011-December 2013
- University of Alaska, Anchorage ACM Student Chapter Faculty Advisor – 2008-2011
- Municipality of Anchorage (MOA) Anchorage Metropolitan Area Transportation Solutions (AMATS) Freight Advisory Committee – 2010-present
- Municipality of Anchorage (MOA) Anchorage Metropolitan Area Transportation Solutions (AMATS) Intelligent Transportation Systems Advisory Committee – January 2013-present

Editor-in-Chief
- *IEEE Intelligent Transportation Systems Magazine, January 2012-December 2013*

Associate Editor
- *IEEE Transactions on Intelligent Transportation Systems, January 2010-December 2013*
- *IEEE Intelligent Transportation Systems Magazine Guest Editor – Traffic Simulators, fall 2010*
- *IEEE Intelligent Transportation Systems Magazine, January 2009-December 2011*

Editorial Board
- *IEEE Intelligent Transportation Systems Society Monthly Podcast, January 2013-present*

Grant Reviewer
- *NSF Panel*, 2011 (twice)

Ph.D. Dissertation Committee Member
- *Mohammad Hoque*, University of Alabama. Defended dissertation successfully on April 25, 2012.

Expert Witness Service
- *RIAA, MPAA et al vs Kazaa, Morpheus, Grokster,* fall 2003
  Representing: RIAA, MPAA et al (plaintiff)
  Role: I aided Prof. Ellis Horowitz in preparing as an expert witness. The case involved an examination of the source code of Kazaa, written in C/C++, and Morpheus, written in Java, in an attempt to determine the extent to which the software remained in contact with the distributor (i.e. Kazaa, Morpheus). The contention being that the connection was maintained and hence Kazaa and Morpheus were in a position to restrict the downloading of copyrighted material. Prof. Horowitz filed a declaration and was deposed.
  Status: The case was settled for Kazaa, et al, reaffirmed on appeal, but decided in favor of the RIAA et al by the Supreme Court in June 2005.
- *NAVCanada vs Adacel and CAE,* fall 2007
  Representing: NAVCanada (plaintiff)
  Role: I aided Prof. Ellis Horowitz in preparing as an expert witness. NAVCanada had developed an air traffic control system for flights across the North Atlantic. They accused Adacel and CAE of copyright infringement. Prof. Horowitz's task was to determine the extent to which the Adacel/CAE software was derivative from the NAVCanada software. The software was written using C++ and Pascal.
  Status: Prof. Horowitz filed a report in the case, and the case was settled.

Journal Publication Reviewer
- *IEEE Transactions on Intelligent Transportation Systems, 2013*
- *MDPI Algorithms Journal, 2013*
- *ACM Transactions on Interactive Intelligent Systems, 2012*
- *IEEE Transactions on Intelligent Transportation Systems, 2012*
- *IEEE Transactions on Vehicular Technology, 2012*
- *Elsevier Simulation Modeling Practice and Theory, 2012*
- *IEEE Vehicular Technology Magazine, 2011*
- *IEEE Intelligent Transportation Systems Magazine, 2011*
- *IEEE Transactions on Intelligent Transportation Systems, 2011*
- *IEEE Intelligent Transportation Systems Magazine, 2010*
- *IEEE Transactions on Intelligent Transportation Systems, 2010*
- *EURASIP Journal on Advances in Signal Processing, 2009*
- *IEEE Transactions on Intelligent Transportation Systems, 2009*
- *IEEE Communications Magazine, 2009*
- *IEEE Transactions on Intelligent Transportation Systems, 2008*

- *IEEE Communications Magazine, 2008*
- *IEEE Transactions on Intelligent Transportation Systems, 2007*
- *IEEE Communications Magazine, 2007*

Conference Proceedings Reviewer

- *IEEE 16th Intelligent Transportation Systems Conference*, the Hague, the Netherlands, October 2013.
- *IEEE 78th Vehicular Technology Conference*, Las Vegas, Nevada, USA, September 2013.
- *IEEE 9th Intelligent Vehicles Symposium*, Gold Coast, Australia, June 2013.
- *IEEE International Conference on Industrial Technology*, Cape Town, South Africa, February 2013.
- *IEEE 15th Intelligent Transportation Systems Conference*, Anchorage, Alaska, USA, September 2012.
- *IEEE 76th Vehicular Technology Conference,* Quebec City, Quebec, Canada, September 2012.
- *IEEE 8th Intelligent Vehicles Symposium*, Alcala de Henares, Spain, June 2012.
- *IEEE 8th International Conference on Information, Communications, and Signal Processing*, Shangri-La, Singapore, December 2011.
- *IEEE 2011 Systems, Man, and Cybernetics Conference*, Anchorage, Alaska, USA, October 2011.
- *IEEE 74th Vehicular Technology Conference,* San Francisco, California, USA, September 2011.
- *IFAC 18th World Congress,* Milano, Italy, August 2011.
- *IEEE 7th Intelligent Vehicles Symposium*, Baden-Baden, Germany, June 2011.
- *IEEE 1st Forum on Integrated and Sustainable Transportation Systems*, Vienna, Austria, June 2011.
- *IEEE 73rd Vehicular Technology Conference*, Budapest, Hungary, May 2011.
- *IEEE 13th Intelligent Transportation Systems Conference*, Madeira, Portugal, September 2010.
- *IEEE Workshop on Vehicular Networking and Applications,* co-located with *IEEE International Conference on Communication,* Cape Town, South Africa, May 2010.
- *IEEE 13th International Multitopic Conference*, Islamabad, Pakistan, December 2009.
- *IEEE 7th International Conference on Information, Communications, and Signal Processing*, Macau, China, December 2009.
- *IEEE 12th Intelligent Transportation Systems Conference*, St. Louis, Missouri, USA, October 2009.
- *IEEE 1st Vehicular Networking Conference*, Tokyo, Japan, October 2009.
- *IEEE 70th Vehicular Technology Conference,* Anchorage, Alaska, USA, September 2009.
- *IEEE 69th Vehicular Technology Conference*, Barcelona, Spain, April 2009.
- *IEEE 3rd Workshop on Automotive Networking and Applications*, co-located with *IEEE Global Communication Conference 2008*, New Orleans, Louisiana, USA, December 2008.
- *IEEE 11th Intelligent Transportation Systems Conference,* Beijing, China, October 2008.
- *3rd International Symposium of Transport Simulation*, Queensland, Australia, August 2008.
- *IEEE 4th Vehicle-to-Vehicle Communications Workshop,* in conjunction with *IEEE 4th Intelligent Vehicles Symposium*, Eindhoven, The Netherlands, June 2008.
- *IEEE 4th Intelligent Vehicles Symposium*, Eindhoven, The Netherlands, June 2008.
- *IEEE 10th Intelligent Transportation Systems Conference*, Seattle, Washington, USA, October 2007.
- *IEEE 3rd Vehicle-to-Vehicle Communications workshop*, in conjunction with *IEEE 3rd Intelligent Vehicles Symposium*, Istanbul, Turkey, June 2007.

Conference General Chair

- *IEEE 78th Vehicular Technology Conference*, Las Vegas, Nevada, USA, September 2013.
- *IEEE 15th Intelligent Transportation Systems Conference,* Anchorage, Alaska, USA, September 2012.
- *IEEE 70th Vehicular Technology Conference*, Anchorage, Alaska, USA, September 2009.

Conference Technical Program Chair

- *IEEE 74th Vehicular Technology Conference*, San Francisco, California, USA, September 2011.

Conference Technical Program Co-Chair

- *IEEE 7th Intelligent Vehicles Symposium*, Baden-Baden, Germany, June 2011.
- *IEEE 1st Forum on Integrated and Sustainable Transportation Systems*, Vienna, Austria, June 2011.

Conference Technical Program Committee Member
- *IEEE 16th Intelligent Transportation Systems Conference,* The Hague, The Netherlands, September 2013.
- *16th Portuguese Conference on Artificial Intelligence, Artificial Intelligence in Transportation Systems Track*, Azores, Portugal, September 2013.
- *IEEE 8th International Conference on Emerging Technologies,* Islamabad, Pakistan, October 2012.
- *IEEE 15th Intelligent Transportation Systems Conference,* Anchorage, Alaska, USA, September 2012.
- *IEEE 76th Vehicular Technology Conference*, Quebec City, Quebec, Canada, September 2012.
- *IEEE 14th Intelligent Transportation Systems Conference*, Washington DC, USA, October 2011.
- *IEEE 2nd Vehicular Networking Conference,* Jersey City, New Jersey, USA, December 2010.
- *IEEE International Conference on Communications, Vehicular Mobility Workshop*, Cape Town, South Africa, May 2010.
- *IEEE International Conference on Communications Vehicular Connectivity Workshop*, Cape Town, South Africa, May 2010.
- *IEEE 1st Vehicular Networking Conference,* Tokyo, Japan, October 2009.
- *IEEE 69th Vehicular Technology Conference*, Barcelona, Spain, April 2009.
- *IEEE 4th Intelligent Vehicles Symposium Vehicle-to-Vehicle Communications Workshop*, Eindhoven, The Netherlands, June 2008.

Conference Publicity Co-Chair
- *IEEE 13th Intelligent Transportation Systems Conference*, Madeira Island, Portugal, September 2010.

Conference Local Arrangements Chair
- *IEEE Systems, Man, and Cybernetics Conference 2011*, Anchorage, Alaska, USA, October 2011.
- *IEEE International Conference on Robotics and Automation*, Anchorage, Alaska, USA, May 2010.

Conference Awards Committee Member
- *IEEE 16th Intelligent Transportation Systems Conference Best Paper Committee Member*, The Hague, The Netherlands, September 2013.
- *IEEE 6th Intelligent Vehicles Symposium,* La Jolla, California, USA, June 2010.

Conference Session Chair
- *IEEE 16th Intelligent Transportation Systems Conference,* The Hague, The Netherlands, September 2013.
- *IEEE 9th Intelligent Vehicles Symposium*, Gold Coast, Australia, June 2013.
- *IEEE Systems, Man, and Cybernetics Conference 2011*, Anchorage, Alaska, USA, October 2011.
- *IEEE 14th Intelligent Transportation Systems Conference*, Washington DC, USA, October 2011.
- *IEEE 7th Intelligent Vehicles Symposium,* Baden-Baden, Germany, June 2011.
- *IEEE 2nd Vehicular Networking Conference*, Jersey City, New Jersey, USA, December 2010.
- *IEEE 12th Intelligent Transportation Systems Conference*, St. Louis, Missouri, USA, October 2009.
- *IFAC 12th Symposium on Control in Transportation Systems*, Redondo Beach, California, USA, September 2009.
- *IEEE 5th Intelligent Vehicles Symposium*, Xi'an, China, June 2009.
- *IEEE 11th Intelligent Transportation Systems Conference,* Beijing, China, October 2008.
- *IEEE 10th Intelligent Transportation Systems Conference,* Seattle, Washington, USA, October 2007.

Special Session Organizer
- "Intelligent Vehicular Applications, Simulations, and Implementations." *IEEE Systems, Man, and Cybernetics Conference 2011*, Anchorage, Alaska, USA, October 2011.

Workshop Organizer
- "Information Fusion for Intelligent Transportation Systems." *IEEE 15th Intelligent Transportation Systems Conference*, Anchorage, Alaska, USA, September 2012. (jointly organized with Javier Sanchez Medina of the University of Las Palmas de Gran Canaria, Spain)

Patents

- Timothy Menard, Jeffrey Miller, John Lund. "Real-Time Snow Plow Tracking." Provisional Patent Application 61/709,264, filed October 3, 2012.

Other Awards and Public Recognition

- "The Need for High Speed: IEEE Experts Predict 60 Percent of the Vehicles on the Road Will Be Internet-Enabled by 2025." August 28, 2013. *PR News Wire article includes quotations from me.* http://www.prnewswire.com/news-releases/the-need-for-high-speed-ieee-experts-predict-60-percent-of-the-vehicles-on-the-road-will-be-internet-enabled-by-2025-221479981.html
- IEEE Vehicular Technology Society Conference Award for my leadership in the IEEE Vehicular Technology Conference-fall 2011 in San Francisco, California. September 3, 2013.
- "Vehicular Technology Conference Focuses on Wireless." July 8, 2013. IEEE The Institute article includes quotations from me. http://theinstitute.ieee.org/benefits/conferences/vehicular-technology-conference-focuses-on-wireless
- *IEEE Alaska Section 2013 Outstanding Leadership and Professional Service Award*, IEEE Alaska Section, 2013.
- "Major Road Blocks Linger, But Driverless Cars Are Here to Stay." July 5, 2013. *Fox Business article includes quotations from me.* http://www.foxbusiness.com/industries/2013/07/03/major-road-blocks-linger-but-driverless-cars-are-here-to-stay/
- Informania Interview on KRUA. May 16, 2013. Discussion about K12 summer camps and Intelligent Transportation Systems research. http://www.kruaradio.org/infomania-dr-miller-interview/
- "The Impact of Driverless Technology and Autonomous Cars." March 26, 2013. Written by Rebekah Coleman. Loans.org article includes quotations from me. http://loans.org/auto/articles/driverless-technology-autonomous-cars
- Nominated for "2013 White House Champions of Change – Transportation Technology Solutions for the 21st Century." March 26, 2013.
- "Intelligent Transportation Careers Speed Ahead." March 2013. Today's Engineer *Career Focus* article includes quotations from me. http://www.todaysengineer.org/2013/Mar/career-focus.asp
- Who Wants to Be a Millionaire? – A question on the show that aired on February 27, 2013 featured the IEEE from the articles below published about driverless cars by 2040. 4th Question – "With self-drviing cars expected to become the norm, the Institute of Electrical and Electronics Engineers predicts that by 2040, drivers will no longer need what?" Answer – Driver's licenses.
- NPR Southern California Radio Interview – "AirTalk with Larry Mantle." 89.3 KPCC, 89.1 KUOR, 90.3 KVLA. September 25, 2012. Discussion about Governor Larry Brown signing bill allowing self-driving cars in California. http://www.scpr.org/programs/airtalk/2012/09/26/28581/governor-brown-paves-the-road-for-hands-free-drivi/ Actual radio segment - http://www.scpr.org/programs/airtalk/2012/09/26/
- QR77 Radio Interview – "The Rob Breckinridge Show." September 21, 2012. Lead story for the show was on driverless vehicles.
- "You won't need a driver's license by 2040." September 18, 2012. CNN article includes quotations from me. http://www.cnn.com/2012/09/18/tech/innovation/ieee-2040-cars/index.html
- "You won't need a driver's license by 2040." September 17, 2012. Wired.com article includes quotations from me. http://www.wired.com/autopia/2012/09/ieee-autonomous-2040/
- "How Self-Driving Cars Will Change Transportation." September 10, 2012. MSN.com Autos article includes quotations from me. http://editorial.autos.msn.com/blogs/autosblogpost.aspx?post=fd1dd24a-7eea-4a00-8a97-dd7c3aab7a1c
- "Look Ma, No Hands! Expert Members of IEEE Identify Driverless Cars As Most Viable Form of Intelligent Transportation Dominating the Roadway by 2040 and Sparking Dramatic Changes in Vehicular Travel." September 5, 2012. PR Newswire article includes quotations from me. http://www.prnewswire.com/news-releases/look-ma-no-hands-168623236.html
- "Look Ma, No Hands!" September 2, 2012. IEEE News Release includes quotations from me. http://www.ieee.org/about/news/2012/5september_2_2012.html
- "Jeff Miller and ITS Help Anchorage Address a National Dilemma." *Transportation Communications Newsletter*, April 25, 2012, ISSN 1529-1057.

- *University of Alaska Anchorage Office of Undergraduate Research and Scholarship Faculty Mentor Award*, based on being the Faculty Mentor to a student who won an Undergraduate Research and Scholarship Award for Research, April 2012.
- *Alaska University Transportation Center Spotlight Column*, based on my research in Intelligent Transportation Systems in Alaska, March 2012.
- *IEEE Intelligent Transportation Systems Magazine Editor-in-Chief's Column*, announcing me as the incoming Editor-in-Chief of the ITS Magazine, winter 2011.
- *IEEE Region 6 Northwest Area Outstanding Section Award 2011*, IEEE Alaska Section while I was the chair of the section in 2011.
- *University of Alaska Anchorage School of Engineering Spring 2011 Engineering Competition Faculty Advisor*, based on being the Faculty Advisor to a student whose project won the Engineering Competition, April 2011.
- *University of Alaska Anchorage Office of Undergraduate Research and Scholarship Faculty Mentor Award*, based on being the Faculty Mentor to a student who won an Undergraduate Research and Scholarship Award for Research, April 2011.
- *Sustainable City Network Article by Randy Rodgers,* April 20, 2011. http://www.sustainablecitynetwork.com/topic_channels/transportation/article_ca00cf16-69db-11e0-9b0e-001a4bcf6878.html?mode=story
- *Anchorage Convention and Visitors Bureau Seymour Award Winner 2011*, based on being the Annual Meeting Champion from 2010.
- *University of Alaska Anchorage School of Engineering Fall 2010 Engineering Competition Faculty Advisor*, based on being the Faculty Advisor to a student whose project won the Engineering Competition, December 2010.
- *Anchorage Convention and Visitors Bureau Meeting Champion,* October 2010, based on the conferences I have aided in bringing to Anchorage having an economic impact of $3,157,341.94.
- Poster Honorable Mention (given to top 5 out of 250 posters), "Determining Time to Traverse Road Sections based on Mapping Discrete GPS Vehicle Data to Continuous Flows." *IEEE 6th Intelligent Vehicles Symposium*, La Jolla, California, USA, June 2010.
- *Professor of the Year of Computer Science* at California State University, Los Angeles in 2002 based on student votes. I was the first lecturer ever to be given this award.

Conferences Attended
- *IEEE 78th Vehicular Technology Conference*, Las Vegas, Nevada, USA, September 2013.
- *IEEE 9th Intelligent Vehicles Symposium*, Gold Coast, Queensland, Australia, June 2013.
- *IEEE 4th Vehicular Networking Conference*, Seoul, South Korea, November 2012.
- *ITS Alaska Annual Meeting*, Anchorage, Alaska USA, October 2012.
- *IEEE 15th Intelligent Transportation Systems Conference*, Anchorage, Alaska, USA, September 2012.
- *IEEE 8th Intelligent Vehicles Symposium*, Alcala de Hernares, Spain, June 2012.
- *IEEE 75th Vehicular Technology Conference*, Yokohama, Japan, May 2012.
- *IEEE Panel of Editors Meeting*, San Francisco, California, USA, April 2012.
- *IEEE 3rd Vehicular Networking Conference*, Amsterdam, The Netherlands, November 2011.
- *ITS Alaska Annual Meeting*, Anchorage, Alaska USA, October 2011.
- *IEEE Systems, Man, and Cybernetics Conference*, Anchorage, Alaska, USA, October 2011.
- *IEEE 14th Intelligent Transportation Systems Conference*, Washington DC, USA, October 2011.
- *IEEE 74th Vehicular Technology Conference*, San Francisco, California, USA, September 2011.
- *ITE Western District Annual Meeting,* Anchorage, Alaska, USA July 2011.
- *IEEE 73rd Vehicular Technology Conference*, Budapest, Hungary, May 2011.
- *American Planning Association's National Planning Conference,* Boston, Massachusetts, USA, April 2011.
- *IEEE 2nd Vehicular Networking Conference*, Jersey City, New Jersey, USA, December 2010.
- *ITS Alaska Annual Meeting*, Fairbanks, Alaska, USA, October 2010.
- *Alaska Community Transportation Transit Conference*, Fairbanks, Alaska, USA, October 2010.
- *IEEE 13th Intelligent Transportation Systems Conference*, Madeira Island, Portugal, September 2010.
- *IEEE 6th Intelligent Vehicles Symposium,* La Jolla, California, USA, June 2010.
- *IEEE International Conference on Robotics and Automation*, Anchorage, Alaska, USA, May 2010.

- *Maintenance Decision Support System Product Showcase*, Anchorage, Alaska, USA, April 2010.
- *Arctic Ice and Snow Roads 2010 Conference*, Anchorage, Alaska, USA, March 2010.
- *IEEE 12th Intelligent Transportation Systems Conference*, St. Louis, Missouri, USA, October 2009.
- *IEEE 70th Vehicular Technology Conference*, Anchorage, Alaska, USA, September 2009.
- *IFAC Symposium on Control Systems*, Redondo Beach, California, USA, September 2009.
- *IEEE 69th Vehicular Technology Conference*, Barcelona, Spain, April 2009.
- *IEEE 6th Consumer Communication and Networking Conference*, Las Vegas, Nevada, USA, January 2009.
- *IEEE 4th Intelligent Vehicles Symposium*, Eindhoven, The Netherlands, June 2008.
- *IEEE 10th Intelligent Transportation Systems Conference*, Seattle, Washington, USA, October 2007.
- *IEEE 3rd Intelligent Vehicles Symposium*, Istanbul, Turkey, June 2007.
- *IEEE 29th International Conference on Software Engineering*, Minneapolis, Minnesota, USA, May 2007.
- *IEEE 9th Intelligent Transportation Systems Conference*, Toronto, Ontario, Canada, September 2006.
- *ITS America Conference*, Phoenix, Arizona, USA, May 2005.
- *IEEE 1st Consumer Communication and Networking Conference*, Las Vegas, Nevada, USA, January 2004.

Awards Received by Students Advised

- Wolfram Donat. *Office of Undergraduate Research and Scholarship (OURS) Discovery Award* for "Computer Vision for Vehicular Robotics," spring 2013. $250
- Vex Robotics High School World Competition Participant, April 2013. As a regional winner, we were invited to participate in the world competition.
- Vex Robotics High School Region Competition Winner, March 2013. I advised a group of four high school students to participate in the competition.
- Jacob Wingerd. *Office of Undergraduate Research and Scholarship (OURS)* for "Digital Snow Plow Monitoring for User Navigation Purposes," fall 2012, $1900.
- Timothy Menard, 2nd Place, *IEEE 2012 Region 6 Paper Competition*, September 2012. $500
- Wolfram Donat. *Office of Undergraduate Research and Scholarship (OURS)* for "Computer Vision for Vehicular Robotics," spring 2012. $2000
- Timothy Menard. Admitted to University of Nevada, Las Vegas, Master's program in Electrical and Computer Engineering, fall 2012.
- Timothy Menard. Internship with Toyota InfoTechnology, Mountain View, California, summer 2012.
- Timothy Menard, *USUAA Leadership Award,* spring 2012. $1000
- Timothy Menard, BP 1st Place Award, *University of Alaska Anchorage School of Engineering Spring 2012 Design Competition*, spring 2012. $300
- Timothy Menard, Society of Women Engineers Community Engagement Award, *University of Alaska Anchorage School of Engineering Spring 2012 Design Competition*, spring 2012. $50
- Timothy Menard, 1st Place, *IEEE Spring 2012 Northwest Area Paper Competition*, April 2012. $750
- Timothy Menard. 1st Place, *IEEE UAA Student Branch Spring 2012 Paper Competition*. (moved onto IEEE Spring 2012 Northwest Area Paper Competition), March 2012.
- Timothy Menard. *UAA Leadership Honors*, spring 2012.
- Timothy Menard. *Society of American Military Engineers Scholarship – Anchorage Post*, 2011. $750
- Timothy Menard. *University of Alaska Anchorage School of Engineering Scholarship*, fall 2011. $500
- Timothy Menard. *UAA University Honors College Discovery Grant* to attend IEEE Intelligent Transportation Systems Conference, Washington DC, October 2011. $1000
- Timothy Menard. Internship with Toyota InfoTechnology, Mountain View, California, summer 2011.
- Timothy Menard. 1st Place, "FreeSim_Mobile: iPhone vs Android." *University of Alaska Anchorage School of Engineering Spring 2011 Design Competition*. $3000
- Timothy Menard. *USUAA Student Travel Grant* to attend IEEE Intelligent Vehicles Symposium in Baden-Baden, Germany, spring 2011. $850
- Timothy Menard. 2nd Place, *IEEE Spring 2011 Northwest Area Paper Competition*, April 2011. $500
- Timothy Menard. 1st Place, *IEEE UAA Student Branch Spring 2011 Paper Competition*. (moved onto IEEE Spring 2011 Northwest Area Paper Competition), March 2011.

- Timothy Menard. *USUAA Student Travel Grant* to attend IEEE Intelligent Vehicles Symposium in San Diego, California, spring 2010. $750
- Timothy Menard. 1st Place, "FreeSim_Mobile." *University of Alaska Anchorage School of Engineering Fall 2010 Design Competition.* $3000
- Timothy Menard. *Office of Undergraduate Research and Scholarship (OURS)* for FreeSim_Mobile, fall 2010. $1000

Presentations – NOTE: This list does not include presentations associated with publications at conferences. All of the papers published at conferences had associated presentations.

55. Miller, Jeffrey. "IEEE 78th Vehicular Technology Conference" Welcome Address. *Presentation at IEEE 78th Vehicular Technology Conference*, Las Vegas, Nevada, USA, September 3, 2013.

54. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Society Magazine Editor-in-Chief Report." *IEEE Intelligent Transportation Systems Society Board of Governors and Executive Committee Meeting*, Gold Coast, Queensland, Australia, June 23, 2013.

53. Miller, Jeffrey. "2013 Vex Robotics World Competition Recap." *IEEE Alaska Section May Member Luncheon*, May 15, 2013.

52. Miller, Jeffrey. "Intelligent Transportation System Projects in Alaska and Beyond." *IEEE Alaska Section March Member Luncheon*, March 20, 2013.

51. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Society Magazine Editor-in-Chief Report." *IEEE Intelligent Transportation Systems Society Executive Committee Meeting*, New Orleans, Louisiana, USA, February 9, 2013.

50. Miller, Jeffrey (presented by Dave Butcher). "IEEE Northwest Area Awards Summary." *IEEE Region 6 Annual Meeting*, Las Vegas, Nevada, USA, February 2, 2013.

49. Miller, Jeffrey (presented by Joe Decuir). "IEEE Northwest Area Awards." *IEEE Fall 2012 Northwest Area Meeting*, Seattle, Washington, USA, October 20, 2012.

48. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Society Magazine Editor-in-Chief Report." *IEEE Intelligent Transportation Systems Society Board of Governors and Executive Committee Meeting*, Anchorage, Alaska, USA, September 15, 2012.

47. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Society VP Administrative Activities Report." *IEEE Intelligent Transportation Systems Society Board of Governors and Executive Committee Meeting*, Anchorage, Alaska, USA, September 15, 2012.

46. Miller, Jeffrey (presented by Alex Wyglinski). "IEEE 78th Vehicular Technology Conference." *Presentation at IEEE 76th Vehicular Technology Conference*, Quebec City, Quebec, Canada, September 5, 2012.

45. Miller, Jeffrey. "Intelligent Transportation System Projects in Heterogeneous Connectivity Environments." *Alaska Department of Transportation Quarterly Design Meeting*, July 31, 2012.

44. Miller, Jeffrey. "Vehicle-to-Infrastructure Design and Applications in Disconnected Environments." *Universitas Miguel Hernandez*, Elche, Spain, June 11, 2012.

43. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Society Magazine Editor-in-Chief Report." *IEEE Intelligent Transportation Systems Society Board of Governors Executive Committee Meeting*, Alcala de Henares, Spain, June 7, 2012.

42. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Society VP Administrative Activities Report." *IEEE Intelligent Transportation Systems Society Board of Governors and Executive Committee Meeting*, Alcala de Henares, Spain, June 7, 2012.

41. Miller, Jeffrey. "Design of Vehicular Ad-Hoc Networks (VANETs) and Applications in Disconnected Environments." *University of Alabama*, Tuscaloosa, Alabama, USA, April 27, 2012.

40. Miller, Jeffrey (presented by Joe Decuir). "IEEE Northwest Area Awards." *IEEE Spring 2012 Northwest Area Meeting*, Spokane, Washington, USA, April 14, 2012.

39. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Society Magazine Editor-in-Chief Report." *IEEE Intelligent Transportation Systems Society Executive Committee Meeting*, Atlanta, Georgia, USA, February 11, 2012.

38. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Society VP Administrative Activities Report." *IEEE Intelligent Transportation Systems Society Executive Committee Meeting*, Atlanta, Georgia, USA, February 11, 2012.

37. Miller, Jeffrey. "Intelligent Transportation Systems Projects in Alaska." *Municipality of Anchorage AMATS January 2012 Meeting*, Anchorage, Alaska, USA, January 12, 2012.

36. Miller, Jeffrey. "IEEE Alaska Report." *IEEE Fall 2011 Northwest Area Meeting*, Portland, Oregon, USA, October 15, 2011.

35. Miller, Jeffrey. *Introduction to Banquet Entertainment – IEEE Systems, Man, and Cybernetics Conference*, Anchorage, Alaska, USA, October 11, 2011.

34. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Society VP Administrative Activities Report." *IEEE Intelligent Transportation Systems Society Board of Governors and Executive Committee Meeting*, Washington DC, USA. October 8, 2011.

33. Miller, Jeffrey. "IEEE 14th Intelligent Transportation Systems Conference." *Presentation at IEEE 13th Intelligent Transportation Systems Conference*, Washington DC, USA, October 6, 2011.

32. Miller, Jeffrey. *IEEE Alaska Section Award Banquet Master of Ceremony*, Anchorage, Alaska, September 17, 2011.

31. Miller, Jeffrey. "Academic Profession and Intelligent Transportation Systems Research." *Guest Lecture – Engineering Seminar (ENGR 192/292)*, University of Alaska Anchorage, September 13, 2011.

30. Miller, Jeffrey. "IEEE 74th Vehicular Technology Welcome Message." *IEEE 74th Vehicular Technology Conference*, San Francisco, California, September 6, 2011.

29. Miller, Jeffrey. "Using Vehicle Probes for Accurate Travel Time Estimation." *Institute of Transportation Engineers (ITE) Western District Annual Meeting*, Anchorage, Alaska, July 13, 2011.

28. Miller, Jeffrey. "IEEE 74th Vehicular Technology Conference." *Presentation at IEEE 73rd Vehicular Technology Conference*, Budapest, Hungary, May 16, 2011.

27. Miller, Jeffrey. *Engineering Graduation Luncheon*, Anchorage, Alaska, April 21, 2011.

26. Miller, Jeffrey. *Acceptance of Anchorage Convention and Visitors' Bureau Seymour Award (Meeting Champion of the Year, 2011)*, Anchorage, Alaska, April 15, 2011.

25. Miller, Jeffrey. "UAA Engineering Programs." *BP Explorers' Visit to UAA School of Engineering*, Anchorage, Alaska, April 12, 2011.

24. Miller, Jeffrey, Teresa Brewer. "Real-Time Freight Tracking using GPS and Cellular Transceivers for Transportation and Community Planning." *American Planning Association 2011 National Planning Conference*, Boston, Massachusetts, April 9, 2011.

23. Miller, Jeffrey. "IEEE Alaska Report." *IEEE Spring 2011 Northwest Area Meeting*, Richland, Washington, April 2, 2011.

22. Miller, Jeffrey. "Distributed Real-Time Vehicular Data Gathering through a Vehicle-to-Infrastructure Network in Anchorage." *University of Alaska Anchorage, Complex Systems Lecture*, Anchorage, Alaska, March 25, 2011.

21. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Society VP Administrative Activities Report." *IEEE Intelligent Transportation Systems Executive Committee Meeting*, Orlando, Florida, February 5, 2011.

20. Miller, Jeffrey. "Fundamentals of Engineering Exam Review – Computers." *University of Alaska, Anchorage School of Engineering FE Refresher Series, Fall 2010*, University of Alaska, Anchorage, October 21, 2010.

19. Miller, Jeffrey. "Real-Time Data Collection through ITS Architectures in Anchorage." *Alaska Community Transportation Conference, ITS Alaska Annual Meeting,* Fairbanks, Alaska, October 6, 2010.

18. Miller, Jeffrey. "IEEE 14th Intelligent Transportation Systems Conference." *Presentation at IEEE 12th Intelligent Transportation Systems Conference*, Madeira Island, Portugal, September 22, 2010.

17. Miller, Jeffrey (presented by James Irvine). "IEEE 74th Vehicular Technology Conference." *Presentation at IEEE 72nd Vehicular Technology Conference*, Ottawa, Canada, September 7, 2010.

16. Miller, Jeffrey. "Anchorage Real-Time Traffic Gathering and Distribution." *Intelligent Transportation Society of Alaska Membership Meeting*, Anchorage, Alaska, July 13, 2010.

15. Miller, Jeffrey. "FreeSim Overview and Current Status." *Pangomedia Developer Meeting*, Anchorage, Alaska, May 14, 2010.

14. Miller, Jeffrey. "Determining Real-Time Flow of Traffic in Anchorage using Vehicle Probes." *Anchorage Freight Advisory Committee Meeting*, Municipality of Anchorage, Alaska, April 12, 2010.

13. Miller, Jeffrey. Welcome Speech for *Arctic Ice and Snow Roads 2010 Conference*, Anchorage, Alaska, March 30, 2010.

12. Miller, Jeffrey. "Fundamentals of Engineering Exam Review – Computers." *University of Alaska, Anchorage School of Engineering FE Refresher Series, Spring 2010*, University of Alaska Anchorage, March 25, 2010.

11. Miller, Jeffrey. "IEEE 70th Vehicular Technology Conference Welcome Message." *IEEE 70th Vehicular Technology Conference*, Anchorage, Alaska, September 21, 2009.

10. Miller, Jeffrey. "IEEE 70th Vehicular Technology Conference." *Presentation at IEEE 69th Vehicular Technology Conference*, Barcelona, Spain, April 28, 2009.

9.   Miller, Jeffrey. "Dynamic Intelligent Transportation Systems." *Guest Lecture – American Indian Science and Engineering Society (AISES)*, University of Alaska Anchorage, April 3, 2009.

8. Miller, Jeffrey. "Fundamentals of Engineering Exam Review – Computers." *University of Alaska, Anchorage School of Engineering FE Refresher Series, Spring 2009*, University of Alaska Anchorage, March 31, 2009.

7. Miller, Jeffrey. "Fundamentals of Engineering Exam Review – Computers." *University of Alaska, Anchorage School of Engineering FE Refresher Series, Fall 2008*, University of Alaska Anchorage, October 23, 2008.

6. Miller, Jeffrey. "Jeffrey Miller's Current Research." *Bachelor of Science in Engineering Faculty Research Seminar*, University of Alaska Anchorage, October 14, 2008.

5. Miller, Jeffrey. "Career in Computer and Software Engineering." *Guest Lecture – Engineering Seminar (ENGR 192/292)*, University of Alaska Anchorage, September 30, 2008.

4. Miller, Jeffrey. "E-Week – Exciting Era of Engineering." *E-Week Presentation*, Bartlett High School, Anchorage, Alaska, February 13, 2008.

3. Miller, Jeffrey. "Intelligent Transportation Systems." *Guest Lecture – Transportation Engineering (CE 402)*, University of Alaska Anchorage, October 24, 2007.

2. Miller, Jeffrey. "A Future in Computer Science." *Guest Lecture for IEEE Student Chapter*, California State University, Los Angeles, November 14, 2002.

1. Miller, Jeffrey. "Web Services." *Directed Research Project (CS 590)*, University of Southern California, April 2002.

Professional Course Development

32. Rasmussen College, Computer Science Program Curriculum, September 2013.

31. Rasmussen College, Web Developer Program Curriculum, February 2013.

30. Rasmussen College, Software Application Developer Program Curriculum, February 2013.

29. Rasmussen College, Software Engineering Program Curriculum, January 2013.

28. Charter College, Project Management (PM4799), October 2012.

27. Everest College, CompTIA A+ (ITSS1004, ITSS2001, ITSS3001), October 2012.

26. ITT, Project Management for Information Technology (PM3440), October 2012.

25. ITT, Email and Web Services (NT2670), October 2012.

24. Strayer University, C++ Development (unknown course number), July 2012.

23. Columbia Southern University, Data Analytics (ITC12A), May 2012.

22. Education Affiliates, Windows Server Network Resources (CNS160), May 2012.

21. Education Affiliates, Windows Server Network Infrastructure (CNS150), May 2012.

20. Education Affiliates, Help Desk Support (CNS135), May 2012.

19. ITT, Managing Software Development Projects (PM4540), January 2012.

18. ITT, Project Management for Information Technology (PM3140), December 2011.

17. Everest Colleges, Institutes, and Universities, Basic Computing (ITSS2001), November 2011.

16. ITT, 3D Modeling Techniques (GC1330), September 2011.

15. ITT, Physical Networking (NT1310), September 2011.

14. ITT/ESI, Web Programming in VB.NET (WT1220), July 2011.

13. ITT/ESI, Systems Analysis (PM3140), May 2011.

12. International Education Corporation, System Architecture CompTIA A+ (CT2009-110), April 2010.

11. International Education Corporation, Windows Applied Computing CompTIA A+ (CT2009-120), April 2010.

10. Walden/Laureate University, Computer Forensics (CMIS 4104), August 2009.

9. Walden/Laureate University, Information Security Techniques II (CMIS 4103), May 2009.

8. Walden/Laureate University, Information Security and Privacy (CMIS 4101), March 2009.

7. International Education Corporation, Network Architecture (Module D in Computer Systems Technician Program), November 2008.

6. International Education Corporation, Client Operating Systems (Module E in Computer Systems Technician Program), November 2008.

5. Strayer University, System Modeling Theory (CIS212), September 2008.

4. Strayer University, Data Warehousing Systems (CIS522), September 2008.

3. Baker College, Internet and Web Security (ITS405), August 2008.

2. Strayer University, Java Programming II (CIS407), August 2007.

1. Westwood College, Compiler and Interpreter Design (SG400), July 2006.

Professional Training
1. State of Alaska, Department of Natural Resources, "AJAX for Java Developers", March 2009.

Grants Received
Total funding as PI/Co-PI since spring 2008 - **$951,117.41**
Total funding as team member since spring 2008 - **$120,000**
Total funding pending - **$862,637**

39. *Submitted to* National Science Foundation Cyber-Physical Systems – "CPS:Synergy:RUI: Automated Snow Mobile Operation in Disconnected Environments." July 2, 2013-July 1, 2017. $797,637, PI

38. *Submitted to* Alaska Department of Transportation – "Highway Patrol Investment Levels vs. Crash Outcomes." April 1, 2013-March 30, 2014. $65,000, Co-PI

37. IEEE Foundation Grant – "K12 STEM Outreach in Computer and Electrical Engineering." July 1, 2013-August 31, 2013. $19,680, PI

36. Vex Robotics High School World Competition, funded by UAA's School of Engineering, UAA's Computer Science and Engineering department, Visit Anchorage, IEEE Alaska, and ITE Alaska. $7500, PI

35. BP – Robotics, Alternative Energy, and Structure Destruction Summer Camp Initiative for Pre-College Students. May 1, 2013-August 15, 2013. $80,000, PI

34. Municipality of Anchorage – "Freight Vehicle Tracking for Real-Time Freight Route Origin-Destination Data." December 2012-December 2013. $5,000, PI

33. Vex Robotics – "RECF/VEX Robotics Competition Grant." November 2012-February 2013. $1233.95, PI

32. University of Alaska Anchorage, Faculty Development Grant – "Test Bed for Robotic Driverless Transportation of Goods and Medical Supplies in Remote Areas." January 2013-June 2013. $2147, PI

31. University of Alaska Anchorage Faculty Leadership in Expanding Undergraduate Research (FLEUR) – "Security in Mobile and Vehicular Ad Hoc Networks (MANET/VANET)." August 2014-December 2014. $4,913.89, PI

30. Personal Grant – Online Researching for Proprietary Project. July 15, 2012-December 31, 2013. $900, PI

29. University of Alaska, Research Travel Grant – IEEE Vehicular Technology Conference-fall 2012, Quebec City, Quebec, Canada. September 3-7, 2012. $580.20, PI

28. University of Alaska, Faculty Development Grant – "Disconnected Vehicular Ad Hoc Network Robotic Hardware Test Platform." July 1, 2012-December 31, 2012. $2,853, PI

27. Visit Anchorage (formerly Anchorage Convention and Visitors' Bureau) Funding for Student Internship. February 2012-October 2012. $3,750, PI

26. GCI – Cellular Data Plan for Vehicle Tracking at UAA. November 2011-?. $750/month, PI

25. BP – Robotics, GPS Tracking, and Rapid Prototyping Summer Camp Initiative for Middle and High School Students. May 1, 2012-August 15, 2012. $80,000, PI

24. BP – Robotics, GPS Tracking, and Rapid Prototyping Summer Camp Initiative for Middle and High School Students. May 1, 2011-August 15, 2011. $80,000, PI

23. Alaska University Transportation Center – "Information Gathering Infrastructure towards Intelligent Transportation." August 1, 2011-December 31, 2012. $85,000, PI

22. University of Alaska, Anchorage – "Information Gathering Infrastructure towards Intelligent Transportation." August 1, 2011-December 31, 2012. $85,000, PI

21. Alaska University Transportation Center – "Gathering of Vehicular Parameters in a Vehicle-to-Infrastructure Intelligent Transportation System." August 1, 2010-December 31, 2011. $99,546, PI

20. University of Alaska, Anchorage – "Gathering of Vehicular Parameters in a Vehicle-to-Infrastructure Intelligent Transportation System." August 1, 2010-December 31, 2011. $99,611, PI

19. University of Alaska, Faculty Development Grant – "Determining Time to Traverse and Origin-Destination Matrices using Probe Vehicles." July 1, 2010-December 31, 2010. $4500, PI

18. Alaska University Transportation Center – "Assessment of Traffic Congestion in Anchorage Utilizing Vehicle-Tracking Devices and Intelligent Transportation System Technology." August 1, 2009-July 30, 2011. $84,639, PI

17. University of Alaska, Anchorage – "Assessment of Traffic Congestion in Anchorage Utilizing Vehicle-Tracking Devices and Intelligent Transportation System Technology." August 1, 2009-July 30, 2011. $72,252, PI

16. Alaska Natives in Science and Engineering Program (ANSEP) Grant – "Assessment of Traffic Congestion in Anchorage Utilizing Vehicle-Tracking Devices and Intelligent Transportation System Technology." August 1, 2009-July 30, 2011. $12,394, PI

15. United States Department of Energy Grant – "A First Assessment of U.S. In-Stream Hydrokinetic Energy Resources since the 1986 NYU Study." January 10, 2010-June 30, 2011. $120,000, Team Member

14. University of Alaska, Anchorage, Engineering K-12 Outreach, Bridging, and Summer Camps – "UAA School of Engineering Summer Robotics/Mechatronics Workshop and Competition." May 1, 2010-May 31, 2010. $59,996, Co-PI

13. Alaska Natives in Science and Engineering Grant – "UAA School of Engineering Summer Robotics/Mechatronics Workshop and Competition." May 1, 2010-May 31, 2010. $30,000, Co-PI

12. University of Alaska, Faculty Development Grant – "Distributed Vehicle Gathering for Intelligent Transportation System Applications", July 1, 2009-December 31, 2009. $4500, PI

11. University of Alaska, Research Travel Grant – IFAC Symposium on Control of Transportation Systems, Redondo Beach, California, USA, September 2009. $400.38, PI

10. University of Alaska, Special United Academics Research Travel Grant – IEEE 69th Vehicular Technology Conference, Barcelona, Spain, April 26-29, 2009. $500, PI

9. Xilinx University Program Donation – 5 Digilent Inc. Spartan 3E FPGA Boards for Digital Circuits Design course (CSE342). April 2009. $745, Recipient

8. University of Alaska, Special United Academics Research Travel Grant – IEEE Intelligent Vehicles Symposium, Xi'an, China. June 3, 2009-June 6, 2009. $1000, PI

7. University of Alaska, Research Travel Grant – "Presentation of Alaska Intelligent Transportation Systems." University of Southern California, Los Angeles, California, March 2009. $409.83, PI

6. Alaska Natives in Science and Engineering Program (ANSEP) Grant – "Acquisition and Analysis of Vehicular Tracking Technology in Anchorage." January 1, 2009-December 31, 2009. $10,000, PI

5. University of Alaska, Faculty Development Grant – "Determination of Probabilities of Factors in Vehicle Crashes using Intelligent Transportation Systems." July 1, 2008-December 31, 2008. $4500, PI

4. University of Alaska, Research Travel Grant – IEEE Intelligent Transportation Systems Conference 2008, Beijing, China. October 12, 2008-October 15, 2008. $316.16, PI

3. Alaska University Transportation Center – Additional support for IEEE 4th International Intelligent Vehicles Symposium, Eindhoven, The Netherlands. June 3, 2008-June 6, 2008. $2000, Recipient

2. University of Alaska, Faculty Development Grant – "Algorithms and Data Structures for the Application of a Super-Vehicle in a Hybrid Vehicle-to-Vehicle-to-Infrastructure (V2V2I) Mobile Ad-Hoc Network (MANET) Architecture." January 1, 2008-June 30, 2008. $4500, PI

1. University of Alaska, Special United Academics Research Travel Grant – IEEE Intelligent Vehicle Symposium 2008, Eindhoven, The Netherlands. June 3, 2008-June 6, 2008. $750, PI

Refereed Journal/Magazine Publications

3. *In Preparation*. Miller, Jeffrey, Timothy Menard. "Determining Continuous Traffic Flow from Discrete Vehicle GPS Data." T*o be submitted to* IEEE Transactions on Intelligent Transportation Systems.

2. *Under Review*. Miller, Jeffrey. "Overview and Analysis of Intelligent Transportation Systems Traveling Salesman Problem (ITS-TSP)." IEEE Transactions on Intelligent Transportation Systems.

1. Miller, Jeffrey. "Dynamically Computing Fastest Paths for Intelligent Transportation Systems." IEEE Intelligent Transportation Systems Magazine, Volume 1, Number 1, Spring 2009.

Refereed Conference Publications – NOTE: All of the papers that were published in conference proceedings had associated presentations at the respective conference.

22. Smith, Kristian, Jeffrey Miller. "OBDII Data Logger Design for Large-Scale Deployments." *IEEE 16th Intelligent Transportation Systems Conference*, The Hague, The Netherlands, October 2013.

21. Menard, Timothy, John Lund, Jeffrey Miller, Todd Petersen. "907-Plow – Anchorage's Approach to Real-Time Snowplow Tracking." *IEEE 15th Intelligent Transportation Systems Conference*, Anchorage, Alaska, USA, September 2012.

20. Miller, Jeffrey, Wolfram Donat, John Harris. "Signal Timing for Fleeting Multiple Intersecting Roadways." *IEEE 15th Intelligent Transportation Systems Conference*, Anchorage, Alaska, USA, September 2012.

19. Enriquez, D.J., Alex Bautista, Paloma Field, Sun-il Kim, Sean Jensen, Muhammad Ali, Jeffrey Miller. "CANOPNR: CAN-OBD Programmable-Expandable Network-Enabled Reader for Real-Time Tracking of Slippery Road Conditions using Vehicular Parameters." *IEEE 15th Intelligent Transportation Systems Conference*, Anchorage, Alaska, USA, September 2012.

18. Menard, Timothy, Jeffrey Miller, Michael Nowak, David Norris. "Comparing the GPS Capabilities of the Samsung Galaxy S, Motorola Droid X, and the Apple iPhone for Vehicle Tracking using FreeSim_Mobile." *IEEE 14th Intelligent Transportation Systems Conference*, Washington DC, USA, October 2011.

17. Menard, Timothy, Jeffrey Miller. "Comparing the GPS Capabilities of the iPhone 4 and iPhone 3GS for Vehicle Tracking using FreeSim_Mobile." *IEEE 7th Intelligent Vehicles Symposium*, Baden Baden, Germany, June 2011.

16. Menard, Timothy, Jeffrey Miller. "FreeSim_Mobile: A Novel Approach to Real-Time Traffic Gathering using the Apple iPhone." *IEEE 2nd Vehicular Networking Conference*, Jersey City, New Jersey, December 2010.

15. Miller, Jeffrey, Sun-il Kim, Timothy Menard. "Intelligent Transportation Systems Traveling Salesman Problem (ITS-TSP) – A Specialized TSP with Dynamic Edge Weights and Intermediate Cities." *IEEE 13th Intelligent Transportation Systems Conference*, Madeira Island, Portugal, September 2010.

14. Miller, Jeffrey, Sun-il Kim, Muhammad Ali, Timothy Menard. "Determining Time to Traverse Road Sections based on Mapping Discrete GPS Vehicle Data to Continuous Flows." *IEEE 6th Intelligent Vehicles Symposium*, La Jolla, California, USA, June 2010.

13. Miller, Jeffrey. "Analysis of the Traveling Salesman Problem with a Subset of Intermediate Cities and Dynamic Edge Weights used with Intelligent Transportation Systems." Invited paper at *IEEE 7th International Conference on Information, Communications, and Signal Processing*, Fisherman's Wharf, Macau, China, December 2009.

12. Miller, Jeffrey, Muhammad Ali. "Dynamic Fastest Paths with Multiple Unique Destinations (DynFast-MUD) – A Specialized Traveling Salesman Problem with Intermediate Cities." *IEEE 12th Intelligent Transportation Systems Conference*, St. Louis, Missouri, USA, October 2009.

11. Miller, Jeffrey. "Analysis of Fastest and Shortest Paths in an Urban City Using Live Vehicle Data from a Vehicle-to-Infrastructure Architecture." *12th International Federation on Automatic Control (IFAC) Symposium on Control in Transportation Systems*, Redondo Beach, California, USA, September 2009.

10. Miller, Jeffrey. "Distributed Urban Data Gathering in a Vehicle-to-Infrastructure Architecture." 2009 *National Rural Intelligent Transportation Systems Conference*, Seaside, Oregon, USA, August 2009.

9. Miller, Jeffrey. "Fastest Path Analysis in a Vehicle-to-Infrastructure Intelligent Transportation System Architecture." *IEEE 5th Intelligent Vehicles Symposium*, Xi'an, Shaanxi, China, June 2009.

8. Miller, Jeffrey. "Analysis of Vehicle Lane Changes for Determining Fastest Paths in the V2V2I ITS Architecture." *IEEE 11th Intelligent Transportation Systems Conference*, Beijing, China, October 2008.

7. Miller, Jeffrey. "Aggregation Algorithms in a Vehicle-to-Vehicle-to-Infrastructure (V2V2I) Intelligent Transportation System Architecture." *3rd International Symposium of Transport Simulation*, Queensland, Australia, August 2008.

6. Miller, Jeffrey. "Fastest Path Determination at Lane Granularity using a Vehicle-to-Vehicle-to-Infrastructure (V2V2I) Intelligent Transportation System Architecture." *IEEE 4th International Workshop on Vehicle-to-Vehicle Communications* in conjunction with *IEEE 4th Intelligent Vehicles Symposium*, Eindhoven, The Netherlands, June 2008.

5. Miller, Jeffrey. "Vehicle-to-Vehicle-to-Infrastructure (V2V2I) Intelligent Transportation System Architecture." *IEEE 4th Intelligent Vehicles Symposium*, Eindhoven, The Netherlands, June 2008.

4. Miller, Jeffrey, Ellis Horowitz. "FreeSim – A Free Real-Time Freeway Traffic Simulator." *IEEE 10th Intelligent Transportation Systems Conference*, Seattle, Washington, USA, October 2007.

3. Miller, Jeffrey, Ellis Horowitz. "FreeSim – A V2V and V2R Freeway Traffic Simulator." *IEEE 3rd International Workshop on Vehicle-to-Vehicle Communications* in conjunction with *IEEE 3rd Intelligent Vehicles Symposium*, Istanbul, Turkey, June 2007.

2. Miller, Jeffrey, Ellis Horowitz. "Algorithms for the Real-Time Processing of Traffic Data." *IEEE 9th Intelligent Transportation Systems Conference*, Toronto, Ontario, Canada, September 2006.

1. Miller, Jeffrey. "Characterization of Data on the Gnutella Peer-to-Peer Network." *IEEE 1st Consumer Communication and Networking Conference*, Las Vegas, Nevada, USA, January 2004.

Other Refereed Publications

2. Miller, Jeffrey, John Harriss, Wolfram Donat, Vitaly Ivanov, Paul Kelly, Dustin Mendoza, Zakary Stone. "Vehicular Robotic Test Bed for ITS Applications." Demonstration Abstract, *IEEE 4th Vehicular Networking Conference*, Seoul, Korea, November 2012.

1. Miller, Jeffrey. "FreeSim – A Free Real-Time V2V and V2I Freeway Traffic Simulator." *IEEE Intelligent Transportation Systems Society Newsletter*, December 2007.

Supplement to Book

1. Miller, Jeffrey. Lab Manual to Accompany The Web Application Hacker's Handbook: Discovering and Exploiting Security Flaws by Davydd Stuttard and Marcus Pinto, ISBN 978-0-470-17077-9, August 2008.

Other Publications

19. Miller, Jeffrey. "Expanding and Improving." IEEE Intelligent Transportation Systems Magazine *Editor-in-Chief Column*, Volume 5, Number 3, fall 2013.

18. Miller, Jeffrey. "Timelines and Deadlines." IEEE Intelligent Transportation Systems Magazine *Editor-in-Chief Column*, Volume 5, Number 2, summer 2013.

17. Miller, Jeffrey. "Motive, Motivate, Motivation." IEEE Intelligent Transportation Systems Magazine *Editor-in-Chief Column*, Volume 5, Number 1, spring 2013.

16. Miller, Jeffrey. "September 2012 Executive Committee/Board of Governors Meeting Summary." *IEEE Intelligent Transportation Systems Society Newsletter,* October 2012.

15. Miller, Jeffrey. "2012 IEEE Intelligent Transportation Systems Conference Summary." *IEEE Intelligent Transportation Systems Society Newsletter,* October 2012.

14. Miller, Jeffrey. "Reflecting on First Year." IEEE Intelligent Transportation Systems Magazine *Editor-in-Chief Column*, Volume 4, Number 4, winter 2012.

13. Miller, Jeffrey. "2012 IEEE Intelligent Transportation Systems Conference Summary." IEEE Intelligent Transportation Systems Magazine *Conference Report*, Volume 4, Number 4, winter 2012.

12. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Conference 2012 General Chair Message." IEEE 15th Intelligent Transportation Systems Conference Program, September 2012.

11. Miller, Jeffrey. "June 2012 Executive Committee/Board of Governors Meeting Summary." *IEEE Intelligent Transportation Systems Society Newsletter,* July 2012.

10. Miller, Jeffrey. "Back to School." IEEE Intelligent Transportation Systems Magazine *Editor-in-Chief Column*, Volume 4, Number 3, fall 2012.

9. Miller, Jeffrey. "Time for the Magazine." IEEE Intelligent Transportation Systems Magazine *Editor-in-Chief Column*, Volume 4, Number 2, summer 2012.

8. Miller, Jeffrey. "February 2012 Executive Committee Meeting Summary." *IEEE Intelligent Transportation Systems Society Newsletter,* May 2012.

7. Miller, Jeffrey. "April 2012 Board of Governors Meeting Summary." *IEEE Intelligent Transportation Systems Society Newsletter,* May 2012.

6. Miller, Jeffrey. "Continuing the Success." <u>IEEE Intelligent Transportation Systems Magazine</u> *Editor-in-Chief Column*, Volume 4, Number 1, spring 2012.

5. Miller, Jeffrey. "October 2011 Executive Committee and Board of Governors Meeting Summary." *IEEE Intelligent Transportation Systems Society Newsletter*, November 2011.

4. Miller, Jeffrey. "IEEE Vehicular Technology Conference Fall 2011 Technical Program Chair Message." <u>IEEE Vehicular Technology Conference Fall 2011 Program</u>, September 2011.

3. Miller, Jeffrey. "February 2011 Executive Committee Meeting Summary." *IEEE Intelligent Transportation Systems Society Newsletter*, April 2011.

2. Miller, Jeffrey. "IEEE Intelligent Transportation Systems Magazine Guest Editorial – Macroscopic and Microscopic Traffic Simulators." <u>IEEE Intelligent Transportation Systems Magazine</u>, Volume 2, Number 4, fall 2010.

1. Miller, Jeffrey. "IEEE Vehicular Technology Conference Fall 2009 General Chair Message." <u>IEEE Vehicular Technology Conference Fall 2009 Program</u>, September 2009.

Experience

Associate Professor with tenure, Computer Science and Engineering, July 2011-present
Assistant Professor, Computer Systems Engineering, August 2007-June 2011
Chair, Bachelor of Science in Engineering Department (Computer, Electrical, and Mechanical Engineering), February 2011-November 2011
University of Alaska Anchorage – Anchorage, Alaska, August 2007-present

- Courses Taught
    - Programming in Java (CS 110)
    - Introduction to Computer Systems (CSE 102)
    - Introduction to C Programming for Engineers (CSE 205/294A)
    - Object-Oriented C++ Programming for Engineers (CSE 215/294B)
    - Engineering Systems Administration (CSE 394B)
    - Digital Circuits Design (CSE 342/394D)
    - Computer Networking for Engineers (CSE 355/394F)
    - Design of Computer Systems Engineering (CSE 438)
    - VLSI Circuit Design (CSE442)
    - Network Security (CSE465)
    - Independent Study (CSE 497)
    - Elements of Electrical Engineering (ES 309)
- Authored introduction to computer systems, introductory programming, object-oriented programming, systems administration, digital circuits, computer networking, operating systems, FPGA, and VLSI classes for engineering students focused on applied applications in various engineering disciplines
- Led Computer Systems Engineering department in preparing ABET documents for securing accreditation, which we received in fall 2008, fall 2010, and fall 2012
- IEEEXtreme Programming Competition Proctor for two UAA teams in 2012
- Started and facilitated Faculty Research Series where each faculty member in the engineering school presents his research to the rest of the faculty during the semester in 2009
- Hosted Prof. Javier Sanchez Medina from Canary Islands giving a talk on ITS technologies in September 2012.
- Hosted Prof. Mohan Trivedi from UC San Diego giving a talk on ITS technologies in August 2012.
- Hosted Alaska Department of Transportation 511 Training Event in March 2010
- Hosted Apple iPhone Development Training Event in April 2010
- Coordinated end-of-semester Engineering Competition for all School of Engineering students in December 2010
- University and School of Engineering Committees
    - School of Engineering Executive Committee, August 2011-November 2011
    - School of Engineering Facilities Committee Chair, August 2011-November 2011, responsible for being the point-man for the school on a new building and space usage in existing facilities
    - Chair of School of Engineering Web Site Steering Committee, 2009-present
    - Program Chair, Computer Systems Engineering ABET Visit, fall 2012
    - Program Chair, Computer Systems Engineering ABET Visit, fall 2010
    - Computer Systems Engineering Advising Committee, 2007-present
    - Computer Systems Engineering Equipment Committee, 2007-2011
    - School of Engineering Computer Committee, 2007-2011
    - Computer Systems Engineering/Electrical Engineering 2008 Faculty Search Committee
    - Computer Systems Engineering/Electrical Engineering 2009 Faculty Search Committee
    - United Academic Board Academic Computing Distance Learning and Instructional Technology Committee, 2008-2009
    - United Academic Board General Education Requirements Committee, 2008-2009
    - Institutional Learning Outcomes and Assessment Task Force, 2008-2009
    - Research, Scholarship, and Creative Activity Review and Evaluation Team, 2010
    - Chair of Computer Science and Engineering Promotion and Tenure Guidelines Committee, 2013
    - Computer Science and Engineering Outstanding Graduate Award Committee, 2013

Online Lecturer, Information Technology
American Public University System/American Military University System – December 2009-present
- Facilitated online education for APUS/AMUS (mostly active or retired military) students around the world
- Courses
    - Application Development (ENTD 411)
    - Systems Engineering (ENTD 412)
    - Enterprise Development using ASP.NET (ENTD 462)
    - Enterprise Development using C# (ENTD 463)
    - Enterprise Development using .NET (ENTD 464)
    - Enterprise Development using J2EE (ENTD 481)
    - Relational Database Concepts (INFO 221)
    - Local Area Network Technologies (ISSC 340)
    - Introduction to Networking (ISSC 341)

Senior Solutions Strategist
Pangomedia, Inc. – Anchorage, Alaska, May 2009-August 2010
- Architected high level solutions for clients, working with the development team to see the project from conception through completion
- Identified clients and projects, including ongoing software development projects, IT consulting placement, and fixed-cost projects
- Solicited business by being an active and participating member of the Alaska business community, performing build/buy analyses, and responding to requests for proposals (RFP)

Senior Programmer / Analyst
Resource Data, Inc. – Anchorage, Alaska, April 2008-October 2008
- Consulted at Chenega Federal Systems, working on the Joint Supply Management Module project for the US Department of Defense concerning fuel and ammunition inventory tracking
- Utilized Struts, Spring, Java, J2EE, JDBC, Hibernate, Ajax, and Web Services in the SCRUM software development methodology
- Re-architected the system as new requirements forced a redesign of the application
- Acted as a team lead for four developers and one database administrator

Computer Science Lecturer
California State University, Los Angeles – Los Angeles, California, February 2002-August 2007
- Courses
    - Introduction to Web Site Development (CS120)
    - Introduction to SQL and Databases (CS122)
    - Introduction to Programming (CS201)
    - Introduction to Object-Oriented Programming (CS202)
    - Programming with Data Structures (CS203)
    - C Programming (CS242)
    - Computer Ethics in the Information Age (CS301)
    - Algorithm Design and Analysis (CS312)
    - Web and Internet Programming (CS320)
    - Introduction to Automata Theory (CS386)
    - Java for C++ Programmers (CS454 – Special Topics)
    - Enterprise Architecture (CS454 – Special Topics, now CS420)
    - Compilers (CS488)
    - Undergraduate Computer Science Wrap-Up Course (CS490)
    - Directed Study (CS499)
- Led a team of undergraduate students in a directed research (CS499) in the design and implementation of a compiler project to be used for the programs in the compiler class (CS488)
- Aided in preparing course documents for ABET accreditation in 2006
- Voted 2002 Professor of the Year by the students in the Computer Science department – 1st lecturer ever to be given this award

- Authored CS420 class on enterprise web architecture, covering RMI, CORBA, Web Services, and different MVC architectures, including Spring and Struts

Independent Consultant
Sigma Coding, LLC **–** May 2005-December 2007
- Performed small to mid-size programming tasks for different companies using predominantly Java, HTML, and Flash
- Automated the drafting of legal documents for a law firm involved with estate planning, including creation of diagrams, flow charts, and Microsoft Word generation
- Migrated a Microsoft Access application to a multi-user web-based application
- Created a socket-based Flash chat application with multiple simultaneous users supporting multiple agents over a Java-based chat server

Founder / Chief Executive Officer
Imaginary Technology, LLC – Burbank, California, August 2005-April 2006
- Started a company that created handheld and standalone point of sale systems for the restaurant industry
- Worked with restaurant owners and potential clients to determine the requirements for the point of sale system
- Managed a team of 5 developers to implement the requirements and install the system
- Responsible for buying hardware, hiring personnel, obtaining investment money, selling the system, and working with owners to improve the system

Application Specialist – Technical Lead / Senior Architect
21st Century Insurance – Woodland Hills, California, February 2005-May 2005
- Worked as a lead and architect on a team responsible for all online payments of insurance policy premiums, including eCheck and direct-debit payments
- Coded in Java on a Websphere-based application using Struts
- Wrote a J2EE tool to allow customer service representatives to see all of the billing history of a customer and all activity that has ever occurred on a customer's policy

Director of Engineering
inQ, Inc.– Agoura Hills, California, July 2004-February 2005
- Responsible for the personnel of the IT department and grew the development/QA team from 2 to 6 within the first 6 months
- Managed a team of 4 programmers and 2 QA engineers on a multi-threaded chat and outbound call application to up-sell online customers of client web sites
- Communicated with clients and partners on all technical issues related to interfacing our application with theirs
- Implemented a complete software development process for use by all departments of the company to interact with the IT department for any requests

Technical Consultant
SBC – Smartpages.com – Pasadena, California, July 2003-July 2004
- Managed a team of 12 programmers on an ongoing project to fix all issues with the production site and reported to the client weekly on the status of the issues
- Responsible for improving and implementing technical processes for the development team
- Created and initiated coding standards, then enforced the standards by performing code inspections on all modified code checked in to the version management software
- Involved in design of documentation templates and other process improvement strategies to aid in increasing the CMM level of the team to CMM Level 3 by 4th quarter of 2005
- Led team in initiating unit testing (using JUnit) and customized exception handling to reduce the number of bugs and the severity of bugs discovered by the quality assurance team

Graduate Research Assistant
Information Sciences Institute (ISI) – Marina Del Rey, California, May 2002-July 2003

- Used PHP4.0 running on Red Hat Linux 7.1 to create a tree structure for browsing the objects of a specified LDAP server
- Created a Service Data Browser using Java Swing to display the service data returned as a web service SOAP message from different providers in different formats, including raw XML, a tree structure, and a status bar
- Designed an interface to allow other programmers to create their own Visualizers to display the service data however they would like in the Service Data Browser
- Created a web-based interface using JSP and JavaBeans to browse specific service data through the use of web services and display the data in a user-friendly tree-based format

Principal Software Engineer

Corticon Technologies, Inc. – Culver City, California, June 2001-May 2002
- Worked as a technical lead on an 8-member project to design and develop an application to automate business rule generation
- Researched augmented decision tables to design efficient algorithms for optimization of business rules, such as expand, collapse (based on an algorithm designed by Dr. Richard N. Shiffman of Yale University), ambiguity checking, and completeness checking
- Helped to design a parser/compiler for creating Java files from business rule statements that could be used with any plug-in architecture
- Technologies included Weblogic, ILOG, JUnit, Ant, and XML (W3C and JDOM)

Programming Consultant

Dacor – Pasadena, California, January 2001-June 2001
- Developed B2B e-commerce site using JSPs, Servlets, JavaBeans, JDBC, and XML that allowed distributors and retailers to automate the ordering of their products –
- Created middleware application using Java to connect a SQL Server database to an existing Legacy system database
- Requested software and database applications to purchase that would best suit the company's growing needs

Systems Administrator / Programmer

Busybox.com – Century City, California, February 2000-January 2001
- Designed and maintained www.busybox.com (corporate site) and promo.busybox.com (promotions site), using HTML, JavaScript, JSP, Servlets, JDBC, and JavaBeans
- Installed necessary components for web applications, including servlet containers, video streaming software, and web servers on Windows NT Server 4.0
- Installed, configured, and developed with IBM Websphere Application Server and Allaire JRun Application Server, using IBM VisualAge for Java and Websphere Studio
- Completed IBM WebSphere Application Server 3.5 certification training and IBM Visual Age for Java certification training

Advanced Java Instructor / Teaching Assistant

Learning Tree University – Chatsworth, California, December 1999-March 2001
- Taught beginning and advanced Java concepts to classes of corporate students that consisted of programmers and managers
- Topics included: AWT, Swing, Networking, File I/O, Web Servers, Servlets, JSP, Reflection, Multi-threaded Applications, Design Patterns, JDBC, XML

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JAMES T.

CARMICHAEL

—

Principal

Tysons Corner Office

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James T. Carmichael is a former Administrative Patent Judge on the Board of Patent Appeals and Interferences (now the Patent Trial and Appeal Board). Jim was employed by the U.S. Patent and Trademark Office (PTO) for eight years, including working in the electrical and computer division of the Board as an Examiner-in-Chief. Currently he represents inventors and patent challengers before the PTO in patent prosecution and post-grant proceedings.

Before becoming a Judge, Jim served for five years as an Associate Solicitor of the PTO. In that capacity, he represented the agency in federal court litigation and argued more than thirty appeals at the U.S. Court of Appeals for the Federal Circuit. The appeals Jim handled included patentability and reexamination. He was also Coordinator of attorney discipline proceedings. Jim helped develop PTO procedures relating to the duty of disclosure as well as reexamination.

Prior to joining the PTO, Jim worked at the U.S. Court of Appeals for the Federal Circuit as former Chief Judge Howard T. Markey's sole law clerk. In that position, he helped Judge Markey draft opinions issued by the Court in patent and trademark cases.

Jim has lectured and published many times on patent law and procedure, and has been widely quoted in the press on patent matters. He is a contributing author to the firm's Bilski Information Center concerning patentable subject matter.

Jim has testified as an expert on PTO procedure in more than thirty patent infringement lawsuits.

In all, Jim has more than twenty-five years of experience in patent matters including prosecution and post-grant proceedings.

AFFILIATIONS & RECOGNITION

Professional Involvement

- American Bar Association: Committee on Inventors, Chair (1996)

- American Intellectual Property Law Association, Chair (2013)

- Association of Patent Law Firms: Secretary (2002)

FOCUS

- Copyrights & Trademarks

- Counseling For Strategic Patent Assets Management

- E-Business, Privacy & Data Security

- Expert Witnesses In Intellectual Property Disputes & Litigation

- Intellectual Property & Technology

- Intellectual Property Disputes & Litigation

- Patent Post-Grant Proceedings

- Patent Prosecution & Counseling

- Technology Transactions & Licensing

PUBLICATIONS

- "Ducking The Big Issues in Bilski?," *Law360* (November 25, 2009).

- "Stakeholders Question Future of Business Method Patents After Bilski Oral Argument," *BNA's Patent, Trademark & Copyright Journal* (November 13, 2009).

- "Beyond Affirmed: Will the Supreme Court Use In re Bilski to Restrict Patentable Subject Matter Even Further Than the Federal Circuit?," *BNA's Patent, Trademark & Copyright Journal* (October 30, 2009).

- "Inequitable Conduct, Gross Negligence and the Kingsdown Decision," *The John Marshall Review of Intellectual Property Law, Volume 8, Issue 4* (June 01, 2009).

- "How to Preempt New PTO 101 Rejections," *IP Law360* (February 06, 2009).

SPEAKING ENGAGEMENTS

- "Patent Pools and Licensing," 2013 IPXI Annual Member Meeting, Chicago, Illinois (September 26, 2013).

- "Patent Law Reform and Development," InsideCounsel 2013 SuperConference, Chicago, Illinois (Panelist) (May 07, 2013).

- "Software Patent Claims," U.S. Patent and Trademark Office roundtable, New York, New York (February 27, 2013).

- "Ethical Challenges in 21st Century Discovery," Federal Circuit Bar Association's Bench & Bar Conference, San Diego, California (June 21, 2012).

EDUCATION

- University of Wisconsin, J.D. 1987, cum laude.

- George Mason University, Electrical & Computer Engineering 1991-1996.

- Yale University, B.A. 1984.

BAR ADMISSIONS

- California, 1987

- District of Columbia, 2000

- United States Patent and Trademark Office

Monson H. Hayes Curriculum Vitae

HAYES, MONSON H. - Professor and Chair
Department of Electrical and Computer Engineering
Volgenau School of Engineering
George Mason University

EDUCATION

B.A., Physics, University of California, Berkeley	1971
S.M., E.E., Massachusetts Institute of Technology	1978
Sc.D., Massachusetts Institute of Technology	1981

EMPLOYMENT HISTORY

Aerojet Electrosystems Company

Systems Engineer	1972-1974

Massachusetts Institute of Technology

Teaching Assistant	1975-1979
Lincoln Laboratory Research Assistant/Summer Staff	1979-1981
ASEE-NASA Langley Summer Faculty Fellow	2000-2002

Georgia Institute of Technology

Assistant Professor of Electrical Engineering	1981-1986
Associate Professor of Electrical Engineering	1986-1991
Professor of Electrical Engineering	1991-2011
Associate Director, Georgia-Tech Savannah	2005-2011
Associate Chair, Electrical and Computer Engineering	2005-2011
Professor Emeritus	**2011-Present**

Chung-Ang University, Seoul Korea

Distinguished Foreign Professor	2011-2014
Graduate School of Advanced Imaging Science	

George Mason University

Professor and Chair, Department of Electrical and Comp. Eng.	2014-Present

EXPERIENCE SUMMARY

At Aerojet Electrosystems, responsible for the processing and analysis of data from infrared imaging systems for on-board orbiting satellites. At Georgia Tech, involved in teaching digital signal processing, and engaged in research in adaptive filtering, image and video processing, statistical signal processing, linear and nonlinear signal modeling, face and gesture recognition, multimedia signal processing, and Internet education. At NASA-Langley worked on signal processing for geosynchronous imaging Fourier transform spectrometers. Spent three years at the Georgia Tech Campus in Metz to initiate a dual degree program with Supélec, and one year in Shanghai at Shanghai Jiao Tong University for the GT-SJTU dual degree program. Also spent one or more semesters for teaching and research at each of the following universities: Universidad Carlos III de Madrid, Seoul National University, and Korea University. At Chung-Ang

University, has an appointment as a Distinguished Foreign Professor to build a world-class program in Advanced Imaging Science.

CURRENT RESEARCH INTERESTS

Image and video processing, image and video compression, face recognition for device personalization, equation recognition, gesture recognition for immersive environments, single and multiple camera systems for driver assistance, computational cameras, image and video processing for consumer electronic devices.

AWARDS

IEEE ASSP Senior Award "For the author of a paper of exceptional merit" (1983)
Presidential Young Investigator Award (1984-1989)
Fellow - Institute of Electrical and Electronics Engineers (1992)
Georgia Tech ECE *Excellence in Continuing Education Award*, 2002
Georgia Institute of Technology *Outstanding Professional Education Award,* 2003.
Georgia Institute of Technology *2010 ECE Distinguished Mentor Award.*
Life Fellow – Institute of Electrical and Electronics Engineers (2014).

PROFESSIONAL ACTIVITIES

Member of European Association for Signal Processing (EURASIP) 1991-1998
Technical Program Committee Member: OSA Topical Meeting on "Signal Reconstruction
   from Incomplete Information and Partial Constraints," 1983.
Member of IEEE ASSP Society DSP Technical Committee: 1984-1989
Chairman of IEEE ASSP Society DSP Technical Committee: 1985-1987
Associate Editor, IEEE Trans. on Acoustics, Speech and Signal Processing, 1984-1988
Secretary/Treasurer, Publications Board of IEEE Transactions on ASSP, 1986-1988
Member of the IEEE ASSP Administrative Committee, 1987-1989
General Chairman, 1988 ASSP Workshop on Digital Signal Processing.
Member, Standing Committee on Constitution and Bylaws for the IEEE Signal
Processing Society, 1988-1994.
Chairman, ASSP Publications Board, 1988-1994.
Editor-in-Chief, Butterworth Series on Signal Processing, 1991-1993.
Member, Technical Directions Committee, IEEE Signal Proc. Society, 1992-present.
General Chairman, 1996 *International Conference on Acoustics, Speech, Signal
   Processing*, Atlanta, GA.
Associate Editor, *IEEE Transactions on Education*, 2000 – 2010.
General Chairman, *2006 International Conference on Image Processing,* Atlanta, GA.
General Chairman, *2018 International Conference on Acoustics, Speech, and Signal
   Processing,* Seoul, Korea
Associate Editor, IEEK Transactions on Smart Processing and Computing, 2012-Present
Associate Editor, IEEE Trans. on Circuits and Systems for Video Technology.
Member, Editorial Board, IEEE Trans. on Circuits and Systems for Video Technology.

CONSULTING

Dr. Hayes has served as a consultant to companies in the areas of signal processing, and image and video processing. Most recently, Dr. Hayes has served as an Expert

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Witness in patent litigation cases involving digital cameras, video cameras, and cell phones.

CONTINUING EDUCATION COURSES

Dr. Hayes has developed ten different courses that have been offered to industry that include:

1. Digital Signal Processing
2. Power Spectrum Estimation
3. Applied Digital Signal Processing
4. Digital Filtering Using DSP Chips
5. Digital Signal Processing Applications
6. Digital Signal Processing Chips
7. Modern Spectrum Estimation and Adaptive Filtering with Applications
8. Fundamentals of Digital Signal Processing with Applications
9. DSP for Practicing Engineers
10. Image and Video Processing

PUBLICATIONS

Books

1. M.H. Hayes, "Signal Reconstruction From Spectral Phase or Spectral Magnitude," in Advances in *Computer Vision and Image Processing*, Chapter 3, vol. 1, Edited by T.S. Huang, JAI Press, 1984.

2. M.H. Hayes, "The Unique Reconstruction of Multidimensional Sequences From Fourier Transform Magnitude or Phase," in *Image Recovery: Theory and Application*, Chapter 6, Edited by H. Stark, Academic Press, 1986.

3. M.H. Hayes, *Statistical Digital Signal Processing and Modeling*, John Wiley & Sons, New York, 1996.

4. M.H. Hayes, *Digital Signal Processing*, Schaum`s Outline Series, McGraw-Hill, New York, 1999.

Journal Papers

1. M.H. Hayes, J.S. Lim, and A.V. Oppenheim, "Signal Reconstruction From Phase Or Magnitude," *IEEE Trans. on Acoustics, Speech, Sig. Proc.*, vol. ASSP-28, no. 6, pp. 672-680, December 1980.

2. V.T. Tom, T.F. Quatieri, M.H. Hayes, and J.H. McClellan, "Convergence Of Iterative Nonexpansive Signal Reconstruction Algorithms," *IEEE Trans. on Acoustics, Speech, Sig. Proc.*, vol. ASSP-29, no. 5, pp.1052-1058, October 1981.

3. M.H. Hayes and J.H. McClellan, "Reducible Polynomials in More Than One Variable," *Proceedings of the IEEE*, vol. 70, no. 2, pp. 197-198, Feb. 1982.

4. A.V. Oppenheim, M.H. Hayes, and J.S. Lim, "Iterative Procedures for Signal Reconstruction From Fourier Transform Phase," *Optical Engineering*, vol. 21, no. 1, pp. 122-127, February 1982.

5. M.H. Hayes, "The Reconstruction Of A Multidimensional Sequence From The Phase Or Magnitude Of Its Fourier Transform," *IEEE Trans. on Acoustics, Speech, Sig. Proc.*, vol. ASSP-30, no. 2, pp. 140-154, April 1982.

     Paper won the 1983 IEEE ASSP Senior Award (*for the author of a paper of exceptional merit*).

     Reprinted in "Selected Papers in Multidimensional Digital Signal Processing," edited by the MDSP Committee of the ASSP Society, *IEEE Press*, 1986.

6. P.L. Van Hove, M.H. Hayes, J.S. Lim, and A.V. Oppenheim, "Signal Reconstruction From Signed Fourier Transform Magnitude," *IEEE Trans. on Acoustics, Speech, Sig. Proc.*, vol. ASSP-31, no. 5, pp. 1286-1293, Oct. 1983.

7. M.H. Hayes and T.F. Quatieri, "Recursive Phase Retrieval Using Boundary Conditions," *Journal Optical Society of America*, vol. 73, no. 11, pp. 1427-1433, Nov. 1983.

8. M.H. Hayes and M.A. Clements, "An Efficient Algorithm for Computing Pisarenko's Harmonic Decomposition Using Levinson's Recursion," *IEEE Trans. on Acoustics, Speech, Sig. Proc.*, vol. ASSP-34, no. 3, pp. 485-491, June 1986.

9. M.H. Hayes, "Inverse Problems: An Overview," *J. Soc. Instr. and Control Eng.*, vol. 15, no. 12, pp. 1089-1094, JAPAN, Dec. 1986, (invited paper).

10. C.E. Morris, M.A. Richards, and M.H. Hayes, "An Iterative Deconvolution Algorithm With Quadratic Convergence," *Journal Optical Society of America: A,* vol. 4, no 1, pp. 200-207, Jan. 1987.

11. D.M. Wilkes and M.H. Hayes, "An Eigenvalue Recursion For Toeplitz Matrices," *IEEE Trans. on Acoustics, Speech, Sig. Proc.*, vol. ASSP-35, no. 6, pp. 907-909, June 1987.

12. E. Karlsson and M.H. Hayes, "Least Squares ARMA Modeling Of Linear Time-Varying Systems: Lattice Filter Structures and Fast RLS Algorithms," *IEEE Trans. on Acoustics, Speech, Sig. Proc.*, vol. ASSP-35, no. 7, pp. 994-1014, July 1987.

13. M.H. Hayes, D.M. Wilkes, and M.A. Clements, "Iterative Harmonic Decomposition Of Nonstationary Random Processes: Theory and Application To Spectral Line Tracking," *Mathematics in Signal Processing*, T.S. Durrani et. al., Editors, pp. 105-119, Clarendon Press, Oxford, 1987.

14. C.E. Morris, M.A. Richards, and M.H. Hayes, "Fast Restoration Of Linearly Distorted Signals," *IEEE Trans. on Acoustics, Speech, and Sig. Proc.*, vol. ASSP-36, no. 7, pp. 1017-1025, July 1988.

15. D.M. Wilkes and M.H. Hayes, "Block Toeplitz Approximation," *Signal Processing*, vol. 15, no. 3, pp. 303-313, October 1988.

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16. D.S. Mazel, J.S. Geronimo, and M.H. Hayes, "On Geometric Sequences Of Reflection Coefficients," *IEEE Trans. on Acoustics, Speech, and Sig. Proc.*, vol. 38, no. 10, pp. 1810-1812, October, 1990.

17. W.S. Kim and M.H. Hayes, "Phase Retrieval Using Two Fourier Transform Intensities," *Journal Optical Society of America: A*, Special Issue on Signal Recovery. vol. 7, no. 3, pp. 441-449, March, 1990.

18. D.S. Mazel and M.H. Hayes, "Extended Properties Of The Levinson Recursion and Lattice Filters," *IEEE Trans. on Circuits and Systems*, vol. 38, no. 5, pp 539-542, May 1991.

19. D.M. Wilkes, S.D. Morgera, F. Noor, and M.H. Hayes, "A Hermitian Toeplitz Matrix Is Unitarily Similar To A Real Toeplitz-Plus-Hankel Matrix," *IEEE Trans. on Signal Processing*, vol. 39, pp. 2146-2148, Sept. 1991.

20. D.S. Mazel and M.H. Hayes, "Using Iterated Function Systems To Model Discrete Sequences," *IEEE Trans. on Signal Processing*, vol. 40, no. 7, pp. 1724-1734, July, 1992.

21. W. Armin Kittel and M.H. Hayes, "Symbolic Representation of Process Monitoring Signals," *Signal Processing*, vol. 29, no. 1, pp. 93-106, October 1992.

22. W.S. Kim, M.H. Hayes "Phase Retrieval Using A Window Function," *IEEE Trans. on Signal Processing*, vol. 41, no. 3, pp. 1409-1412, March 1993.

23. G. Vines and M.H. Hayes, "Nonlinear Address Maps In a One-Dimensional Fractal Model," *IEEE Trans. on Signal Processing*, vol. 41, pp. 1721-1724, April 1993.

24. F.A. Sakarya and M.H. Hayes, "A Subspace Rotation-Based Technique For Estimating 2-D Arrival Angles Using Nonlinear Array Configurations," *IEEE Trans. Acoust., Speech, Sig. Proc.*, vol. ASSP-42, no. 2, pp. 409-411, Feb. 1994.

25. M.H. Hayes, "Iterated Function Systems for Image and Video Coding," *Journal on Communications,* vol. XLV, pp. 11-19, June 1994.

26. A. Peng and M.H. Hayes, "Iterative human facial expression modeling," *Image Analysis Applications and Computer Graphics,* Lecture Notes in Computer Science, 1024:479-486, 1995.

27. F.A. Sakarya and M.H. Hayes, "Estimating 2-D DOA Angles Using Nonlinear Array Configurations," *IEEE Trans. on Signal Processing*, vol. 43, no. 9, pp. 2212-2216, Sept. 1995.

28. H. Aydinoglu and M.H. Hayes, "Source Coding of Stereo Pairs," in *Intelligent Methods in Signal Processing and Communications*, Birkhauser, Boston, 1997 (invited paper).

29. H. Aydinoglu and M.H. Hayes, "Stereo Image Coding: A Projection Approach," *IEEE Trans. on Image Processing*, vol. 7, no. 4, pp. 507-516, April 1998.

30. J.R. Price and M.H. Hayes, "Resampling and Reconstruction with Fractal Interpolation Functions", *IEEE Signal Processing Letters*, vol. 5, no. 9, pp. 228-230, September 1998.

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- Agriculture
- Automotive
- Chemicals
- Computer Software
- Construction
- Electronics

- Healthcare/Medical Products
- Manufacturing
- Oil and Gas
- Retail/Consumer Products
- Semiconductors
- Telecommunications
- Utilities

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[1] IPFC Corp. is a consulting firm and not a CPA firm.

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	"Damages Strategies in an Evolving World" – November 1998, The University of Texas School of Law – Advanced Patent Law Institute
	"Where are the Costs in Patent Litigation? (And What is the Value Being Received?)" – 1999 Fourth International Symposium on Reduction of Patent Costs, The Hague, Netherlands
	"Dealing With Experts: An Expert's Perspective", State Bar of Texas, Advanced Patent Litigation: Strategies and Tactics, July 2005, Lake Tahoe, Nevada
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